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VOLUME 8.

FIRST SESSION OF THE SEVENTH PARLIAMENT

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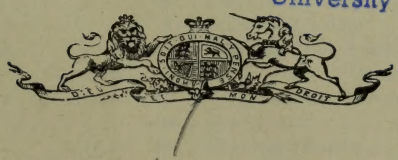

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1. Public Accounts of Canada, for the fiscal year ended 30th June, 1890 ; presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster. Estimates for the year ending 30th June, 1892 ; presented 18th May, 1891. Supplementary Estimates for the year ending 30th June, 1891 ; presented 4th June, 1891. Supplementary Estimates, 1891-32 ; presented, 16th September, 1891. Further Supplementary Estimates for the year ending 30th June, 1892 ; presented 29th September, 1891..... *Printed for both distribution and sessional papers.*

2. List of Shareholders in the Chartered Banks of the dominion of Canada, as on the 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

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3. Report of the Auditor General on Appropriation Accounts, for the year ended 30th June, 1890. Presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster—
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4. Tables of the Trade and Navigation of the dominion of Canada, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. M. Bowell—
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5. Report, Returns and Statistics of the Inland Revenues of the dominion of Canada, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Costigan..... *Printed for both distribution and sessional papers.*

5*a*. Inspection of Weights, Measures and Gas, being a supplement to the report of the department of inland revenue, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Costigan—
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5*b*. Report on Adulteration of Food, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 1st June, 1891, by Hon. J. Costigan—
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6. Report of the Minister of Agriculture for the dominion of Canada, for the calendar year 1890. Presented to the House of Commons, 5th May, 1891, by Hon. John Haggart—
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6*a*. Report on Canadian Archives, 1891..... .....*Printed for both distribution and sessional papers.*

6*b*. Report on Western Hemisphere Trade..... .....*Printed for both distribution and sessional papers.*

6*c*. Reports of the Director and Officers of the Experimental Farms, for the year 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Haggart—
Printed for both distribution and sessional papers.

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6*d*. First Annual Report of the Dairy Commissioner for the dominion of Canada for 1890. Presented to the House of Commons, 12th May, 1891, by Hon. J. Haggart—
Printed for both distribution and sessional papers.

6*e*. Report of the High Commissioner for Canada, with Reports from Agents in the United Kingdom, for the year 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Haggart—
Printed for both distribution and sessional papers.

6*f*. Mortuary Statistics of the principal cities and towns of Canada for the year 1890—
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6*g*. Criminal Statistics for the year ended 30th September, 1890—
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6*h*. Report of the Honorary Commissioner, Mr. Adam Brown, representing Canada at the Jamaica Exhibition, 1891. Presented to the House of Commons, 26th June, 1891, by Hon. J. Haggart—
Printed for both distribution and sessional papers.

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7. Twenty-third Annual Report of the Department of Marine, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 4th May, 1891, by Hon. C. H. Tupper—
Printed for both distribution and sessional papers.

7*a*. Report of the Chairman of the Board of Steamboat Inspection, etc., for calendar year ended 31st December, 1890. Presented to the House of Commons, 4th May, 1891, by Hon. C. H. Tupper—
Printed for both distribution and sessional papers.

7*b*. Evidence on the Export Cattle Trade of Canada. Presented to the House of Commons, 4th May, 1891, by Hon. C. H. Tupper ....*Printed for both distribution and sessional papers.*

7*c*. Report of Evidence relative to the Carrying of Deck Loads of Timber and Deals during the winter months. Presented to the House of Commons, 4th May, 1891, by Hon. C. H. Tupper—
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8. Annual Report of the Department of Fisheries for the year 1890. Presented to the House of Commons, 6th May, 1891, by Hon. C. H. Tupper....*Printed for both distribution and sessional papers.*

8*a*. Fisheries Statements and Inspectors' Reports for the year 1890. Presented to the House of Commons, 4th June, 1891, by Hon. J. A. Chapleau..*Printed for both distribution and sessional papers.*

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8*c*. Correspondence respecting the Seizure of the British schooner "Araunah," off Copper Island, by the Russian Authorities, 1888-90..... .....*Printed for both distribution and sessional papers.*

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10. Annual Report of the Minister of Railways and Canals for the past fiscal year, from the 1st July, 1889, to 30th June, 1890, on the works under his control. Presented to the House of Commons, 5th May, 1891, by Sir John A. Macdonald.....*Printed for both distribution and sessional papers.*

10*a*. Canal Statistics for season of Navigation, 1890. Presented to the House of Commons, 4th June, 1891, by Hon. M. Bowell.....*Printed for both distribution and sessional papers.*

10*b*. Reports, Railway Statistics of Canada, and capital, traffic and working expenditure of the railways of the Dominion, 1890. Presented to the House of Commons, 24th June, 1891, by Hon. M. Bowell..... *Printed for both distribution and sessional papers.*

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11*a*. Preliminary abstract of the business of Canadian Life Insurance Companies for the year ending 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

11*b*. Abstract of statements of Insurance Companies in Canada, for the year ending 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

12. Report of the Minister of Justice as to Penitentiaries in Canada, for the year ended 30th June, 1890. Presented to the House of Commons, 6th May, 1891, by Sir John Thompson—
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13. Annual Report of the Department of Militia and Defence of the dominion of Canada, for the year ending 31st December, 1890. Presented to the House of Commons, 11th May, 1891, by Sir Adolphe Caron.....*Printed for both distribution and sessional papers.*

14. Report of the Secretary of State, for the year ended 31st December, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau—
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14*a*. The Civil Service List of Canada, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau.....*Printed for both distribution and sessional papers.*

14*b*. Report of the Board of Examiners for the civil service of Canada, for the year ended 31st December, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau—
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14*c*. Report of the Department of Public Printing and Stationery for the dominion of Canada, for the year ending 30th June, 1890, with a partial report for services during six months ending 31st December, 1890. Presented to the House of Commons, 4th June, 1891, by Hon. J. A. Chapleau—
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15. Report of the Joint Librarians of Parliament on the state of the library of parliament. Presented to the House of Commons, 30th April, 1891, by Hon. Mr. Speaker..*Printed for sessional papers only.*

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17. Annual Report of the Department of the Interior, for the year 1890. Presented to the House of Commons, 4th May, 1891, by Hon. E. Dewdney—
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17*a*. Summary Report of the Geological Survey Department, for the year 1890. Presented to the House of Commons, 4th May, 1891, by Hon. E. Dewdney—
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19. Report of the Commissioner of the North-West Mounted Police, 1890. Presented to the House of Commons, 18th May, 1891, by Sir John A. Macdonald.—
Printed for both distribution and sessional papers.

20. Statement of Governor General's Warrants issued since the closing of Parliament, and of the expenditure made on them, in accordance with the Consolidated Revenue and Audit Act. Presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster....*Printed for distribution only.*

20*a*. Return to an order of the House of Commons, dated 18th May, 1891, for a return showing details of the following items of expenditure which appear in the statement of Governor General's warrants issued since the closing of the last parliament: July 10th, 1890, franchise act, $4,000; March 26th, 1891, Kingston graving dock, $6,006.14; August 30th, 1890, new dredging plant, $5,991.91; March 26th, 1891, breakwater at Southampton, $38,022.39; April 28th, 1891, cost of litigated matters, $10,468.79; January 31st, 1891, seed grain to settlers in N.W.T., $2,298.18. Presented to the House of Commons, 22nd May, 1891.—*Mr. Mulock*.....*Printed for distribution only.*

21. Statement of expenditure on account of Miscellaneous Unforeseen Expenses from 1st July, 1890, to 30th April, 1891. Presented to the House of Commons, 6th May, 1891, by Sir John A. Macdonald.....*Printed for distribution only.*

22. Return to an order of the House of Commons, dated 6th May, 1891, for a return of the receipts and expenditures in detail, chargeable to the consolidated fund, from the 1st day of May, 1890, to 1st day of May, 1891; and comparative statements from 1st July, 1889, to 1st May, 1890. Presented to the House of Commons, 12th May, 1891.—*Sir R. Cartwright*.....*Printed for distribution only.*

22*a*. Return to an order of the House of Commons, dated 15th May, 1891, for a return giving comparative statement of receipts and expenditures from 1st July, 1890, to 10th May, 1891, and from 1st July, 1889, to 10th May, 1890. Presented to the House of Commons, 18th May, 1891.—*Sir R. Cartwright*.....*Printed for distribution only.*

22*b*. Statement of receipts and expenditures, in detail, chargeable to the consolidated fund, from 1st July, 1889, to 20th May, 1890; and like statement from 1st July, 1890, to 20th May, 1891. Presented to the House of Commons, 22nd May, 1891, by Hon. G. E. Foster.....*Printed for distribution only.*

22*c*. Statement of receipts and expenditures, in detail, chargeable to the consolidated fund, from 1st July, 1889, to 31st May, 1890; and like statement from 1st July, 1890, to 31st May, 1891. Presented to the House of Commons, 1st June, 1891, by Hon. G. E. Foster..... *Printed for distribution only.*

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23. Statement of all superannuations and retiring allowances in the civil service, giving the name and rank of each person superannuated or retired, his salary, age and length of service, his allowance and cause of retirement, whether the vacancy has been filled by promotion or new appointment, etc., for year ended 31st December, 1890. Presented to the House of Commons, 11th May, 1891, by Hon. G. E. Foster.....*Printed for sessional papers only.*

24. List of public officers to whom commissions have issued under chapter 19 of the Revised Statutes of Canada, during the year 1890. Presented to the House of Commons, 12th May, 1891, by Hon. J. A. Chapleau.....*Printed in No.* 14.

25. Return *(in part)* under resolution of the House of Commons, passed on the 20th February, 1882, on all subjects affecting the Canadian Pacific Railway, respecting details as to: 1. Selection of the route. 2. The progress of the work. 3. The selection or reservation of land. 4. The payment of moneys. 5. The laying out of branches. 6. The progress thereon. 7. The rates of tolls for passengers and freight. 8. The particulars required by the Consolidated Railway Act and amendments thereto, up to the end of the previous fiscal year. 9. Like particulars up to the latest practicable date before the presentation of the return. 10. Copies of all orders in council and all

correspondence between the government and the railway company, or any member or officer of either, relating to the affairs of the company. Presented to the House of Commons, 14th May, 1891, by Hon. E. Dewdney ..... *Printed for sessional papers only.*

25*a*. List of lands sold by the Canadian Pacific Railway Company, from the 1st October, 1889, to 1st October, 1890. Presented to the House of Commons, 27th May, 1891, by Hon. E. Dewdney—
Printed for sessional papers only.

26. Return to an order of the House of Commons, dated 14th May, 1891, for an abstract copy or copies of the cargoes carried by the steamships subsidized to run between the maritime provinces and the West Indies on each voyage during the present year 1891; showing the character and value of the cargoes carried and the port or ports of lading and discharge of such cargoes, with an abstract of any other information given in such manifest; and also showing number of trips made by the steamers subsidized to carry on the steam service between the maritime provinces and the West India ports, during the year 1890; the dates of such trips, amount paid for each trip, the person or company carrying out said service for the present year, and whether any contract has been entered into for the service this year, and what rates are being paid therefor and to whom. Presented to the House of Commons, 18th May, 1891—*Mr. Davies*..*Printed for sessional papers only.*

26*a*. Return to an address of the House of Commons, to his excellency the Governor General of the 27th May, 1891, for: 1. Copies of all correspondence and reports to council on the subject of payment of subsidies to the Canadian, West Indian and South American Steamship Company, and to Messrs. Pickford and Black, or either of them, and for copies of all contracts between the Canadian, West Indian and South American Steamship Company (Limited), and Messrs. Pickford and Black, or either of them, and the government, for the steam service between Canada and the West Indies, entered into during the year 1890. 2. Also the names of persons or companies to whom the subsides for the steam service between St. John, N.B., and the West Indies were paid, previously to the execution of the contract by the Canadian, West Indian and South American Steamship Company, and the amounts so paid, and dates. Also the amount paid, and dates when paid to such steamship company, after entering into the contract. Presented to the House of Commons, 13th July, 1891—*Mr. Davies* ....*Printed for sessional papers only.*

27. Return to an Order of the House of Commons, dated the 6th May, 1891, for a return giving the date of the declarations in every riding during the recent general election. If adjournments or enlargewere made, in any case, from the time fixed at the nominations, stating where, when, how often and for what reason, and giving the name and address of the returning officer where such occurred; also giving the name, occupation and post office address of every returning officer; showing the date of return by returning officer to the clerk of the crown in chancery, and the date of receipt of each by the clerk of the crown in chancery; together with the name of the electoral district and the member elected thereto, and the date of publication of his return in the *Canada Gazette*. Also copies of all letters written by or on behalf of any member of the government to any member elect or to any other person or persons suggesting that any returning officer be asked to delay making his return to the clerk of the crown in chancery. Presented to the House of Commons, 19th May, 1891.—*Mr. Landerkin*..... .....*Printed for sessional papers only.*

27*a*. Return of the Seventh General Election for the House of Commons of Canada, by Samuel E. St. O. Chapleau, Esq., Clerk of the Crown in Chancery for Canada. Presented to the House of Commons, 19th May, 1891, by Hon. J. A. Chapleau..*Printed for both distribution and sessional papers.*

28. Detailed statement of all bonds and securities registered in the department of the secretary of state of Canada, since last return, 1890, submitted to the parliament of Canada under section 23, chapter 19, of the Revised Statutes of Canada. Presented to the House of Commons, 20th May, 1891, by Hon. J. A. Chapleau..... ....*Not printed.*

29. Return to an order of the House of Commons, dated 11th May, 1891, for a return showing a detailed account of all expenses incurred in connection with an investigation held into the conduct of the indian agent at Sutton West. Presented to the House of Commons, 21st May, 1891.—*Mr. Mulock* ....*Not printed.*

29*a*. Return to an order of the House of Commons, dated 18th May, 1891, for a list and prices paid for all articles purchased for the indians of the counties of Guysboro' and Antigonish, including in said list any cattle purchased as well as farming implements, during the last three years. Also statement of prices realized from sale of cattle or other articles purchased for the use of the indians in said counties. Also statement in full of articles belonging to the department of the interior in said counties for the use of the said indians. Presented to the House of Commons, 27th May, 1891. —*Mr. Fraser*..... .... *Not printed.*

30. Return to an address of the House of Commons to his excellency the Governor General, dated 11th May, 1891, for a return of: 1. Copies of all correspondence and telegrams between the department of militia and defence, or any officer thereof, and the commander of "C" battery, having reference to sending a detachment of men under his command to Wellington on the 4th or 5th day of August last, ostensibly to aid the civil authorities of that district. 2. Also copies of the requisition served on the said commanding officer, invoking military aid at Wellington, together with the names of the magistrates who signed the requisition, also the distance from Wellington at which said magistrates reside. 3. Also copies of the reports of the commanding officer, confidential or otherwise, as to the necessity there was for the military occupation of Wellington, and for their continuance there, until they were recalled. 4. Also of all telegraphic or other correspondence between the department of militia and defence, or any officer of the government of Canada, and the provincial government of British Columbia, or with any officer thereof, if any, or with any other person, in reference to sending the said military force to Wellington. 5. Also a detailed statement of all moneys disbursed by the government of Canada, or by any department thereof, either as regimental pay, or for active service allowance, either to the officers and men of "C" battery, or both officers and men of the British Columbia Garrison Artillery, while on service at Wellington, or for their maintenance while there, or for their transportation to and from Wellington. 6. Also copies of all militia general and special orders issued by the militia department for the regulation and guidance of the officers of "C" battery since its establishment in British Columbia. Presented to the House of Commons, 22nd May, 1891.—*Mr. Gordon*—*Not printed.*

30a. Return to an order of the House of Commons dated 3rd June, 1891, for a return of all reports from the deputy adjutant general of military district No. 11 to the minister of militia, since January, 1888: 1. In regard to "C" battery barracks. 2. In regard to drill hall in Victoria. 3. In regard to removal of magazine from Beacon Hill Park. 4. In regard to condition of guns, stores, gun platforms, etc. Also copies of all correspondence between the deputy adjutant general of military district No. 11 and the minister of militia, on the same subjects, since the same date. Presented to the House of Commons, 1st July, 1891.—*Mr. Prior*.....*Not printed.*

31. Return to an address of the House of Commons, to his excellency the Governor General, dated 14th May, 1891, for a return of all petitions addressed to the government, praying for the analysis of intoxicating liquor manufactured or offered for sale, by wholesale or retail, in the dominion of Canada. Presented to the House of Commons, 22nd May, 1891.—*Mr. Curran*.....*Not printed.*

32. Return to an order of the House of Commons, dated 14th May, 1891, for copies of correspondence, papers, and all documents respecting steps taken by the government during last session, or since that time, to prevent American cheese being shipped through or from Canadian ports, and branded as Canadian; also copies of the instructions now given to the proper authorities or preventive officers on the subject. Presented to the House of Commons, 26th May, 1891.—*Mr. Marshall*—*Not printed.*

33. Return to an order of the House of Commons, dated 6th May, 1891, for a return in the form used in the statements usually published in the *Gazette* of the exports and imports from 1st day of May, 1890, to 1st day of May, 1891, distinguishing the products of Canada and those of other countries; and comparative statements from 1st July, 1889, to 1st May, 1890. Presented to the House of Commons, 27th May, 1891.—*Sir R. Cartwright*.....*Printed for distribution only.*

34. Copies of papers relating to the sale of the Carleton Branch Railway to the city of St. John. Presented to the House of Commons, 29th May, 1891, by Hon. G. E. Foster .....*Not printed.*

34a. Return to an address of the House of Commons to his excellency the Governor General, dated 18th June, 1891, for copies of all orders in council, correspondence, papers, reports and documents in relation to the returning of the debentures of the North Shore Railway Company. Presented to the House of Commons, 10th August, 1891.—*Mr. Langelier*.....*Printed for sessional papers only.*

34b. Return to an order of the House of Commons, dated 20th July, 1891, for all papers in reference to the claim of Hugh Munroe, of River John, Pictou County, for damages for injuries caused to his farm by the building of the Short Line Railway. Presented to the House of Commons, 10th August, 1891.—*Mr. Fraser*.....*Not printed.*

34c. Return to an address of the House of Commons to his excellency the Governor General, dated 20th July, 1891, for copies of all correspondence, petitions and memorials relating to the construction of a line of railway by the Inverness and Richmond Railway Company (Limited), in the county of Inverness, up to date. Presented to the House of Commons, 10th August, 1891. *Mr. Cameron (Inverness)*.....*Not printed.*

34*d*. Return to an address of the House of Commons to his excellency the Governor General, dated 20th July, 1891, for copies of all petitions, letters or communications whatsoever received by the government from any of the municipalities of the county of Napierville, or from any person in the said county, and of any answers made by the government thereto, up to the 5th March last, in relation to the granting of a subsidy in aid of the construction of a railway between the village of Napierville and the village of St. Rémi. Presented to the House of Commons, 10th August, 1891. —*Mr. Monet*.....*Not printed.*

34*e*. Return to an order of the House of Commons, dated the 18th June, 1891, for a return showing: 1. The names of the several railways in the dominion to which dominion aid has been granted, except the Canadian Pacific main line 2. The province within which the said railway, in whole or in part, is located, and if located in two or more provinces, the number of miles in each. 3. The county or counties through which the said lines run in each province. 4. The amount of money paid to each up to the 1st January, 1891. 5. The railways built in the dominion by the dominion since confederation, excepting the main line of the Intercolonial and main line of the Canadian Pacific. 6. The province within which built. 7. The entire cost of each line built or assisted by the dominion, in each province, including equipment. 8. The entire sum spent up to 1st January last, on the construction of dominion roads in each province, excepting the Intercolonial main line and Canadian Pacific main line. Presented to the House of Commons, 14th September, 1891.—*Mr. McMullen*.....*Printed for sessional papers only.*

35. Report of the Commissioner, Dominion Police, for the year 1890, under Revised Statutes of Canada, chapter 184, section 5. Presented to the House of Commons, 1st June, 1891, by Sir John Thompson.....*Not printed.*

36. Return to an address of the House of Commons to his excellency the Governor General, dated 12th May, 1891, for copies of all orders in council, letters, correspondence, and documents of every nature respecting the resignation of James Thurber, Esq., lieutenant-colonel of the sedentary militia, in the county of Lotbinière; the appointment of his son, Mr. William Thurber, as light-house keeper in the parish of St. Croix; and the refusal of the government to grant to the said James Thurber, Esq., the amount claimed by him as his superannuation allowance. Presented to the House of Commons, 1st June, 1891.—*Mr. Rinfret*.....*Not printed.*

36*a*. Return to an order of the House of Commons, dated 11th May, 1891, for all correspondence and papers relating to the resignations and re-appointments to office of the following parties: Samuel Genest, John Cosgrove and Charles Leduc. Presented to the House of Commons, 4th June, 1891.—*Mr. Devlin*.....*Not printed.*

36*b*. Return to an order of the House of Commons, dated 18th June, 1891, for a return of all letters, correspondence and papers relating to the cause of the resignation and removal of William Laidlow, of Arthur, from the North-West Mounted Police, and all papers and correspondence relating to his application for compensation for the loss of his thumb while in the service; also the award of compensation paid him, if any. Presented to the House of Commons, 6th July, 1891.—*Mr. Mc Mullen*.....*Not printed.*

37. Return to an order of the House of Commons, dated 12th May, 1891, for a return showing how many yards of cotton sail duck have been imported at Halifax, Nova Scotia, from the 30th June, 1889, to 30th June, 1890, and from 30th June, 1890, to 30th December, 1890, and the value of such importation respectively. Presented to the House of Commons, 2nd June, 1891.—*Mr. White (Shelburne)*.....*Not printed*

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38. Papers relating to the extension and development of trade between the United States and the dominion of Canada, including the colony of Newfoundland. Presented to the House of Commons, 3rd June, 1891, by Sir John Thompson.....*Printed for both distribution and sessional papers.*

38*a*. Further papers relating to the extension and development of trade between the United States and dominion of Canada, including the colony of Newfoundland. Presented to the House of Commons, 22nd June, 1891, by Sir John Thompson .*Printed for both distribution and sessional papers.*

38*b*. Copy of a report of the honourable the privy council of the 4th November, 1890, relative to the proposal made by the government of Canada to the governors of British West India Islands and of British Guiana for the extension of trade, together with correspondence, etc., referring to the same subject. Presented to the House of Commons, 29th July, 1891, by Hon. G. E. Foster—

Printed for both distribution and sessional papers.

38*c*. Correspondence and telegrams respecting the Spanish American Treaty. Presented to the House of Commons, 22nd September, 1891, by Hon. G. E. Foster.....*Printed for sessional papers only.*

39. Return to an order of the House of Commons, dated 27th May, 1891, for copies of the report of the enquiry held by J. B. Caouette, in 1890, respecting the abstraction, from the post office at Isle Verte, of a newspaper addressed to a resident of that parish ; of all letters from the post office department to the said Caouette, and replies thereto, and of any report made by the said Caouette ; also of all official correspondence in relation to the said enquiry. Presented to the House of Commons, 16th June, 1891.—*Mr. Amyot*.....*Not printed.*

39*a*. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, petitions and memorials relating to and praying for the construction of a suitable post office in the town of Buckingham, county of Ottawa. Presented to the House of Commons, 16th June, 1891. —*Mr. Devlin*.....*Not printed.*

39*b*. Return to an address of the House of Commons to his excellency the Governor General, dated 27th May, 1891, for copies of all petitions, memorials, reports and orders in council in reference to the establishment of a post office at Campbellton, in the county of Inverness, Nova Scotia. Presented to the House of Commons, 19th June, 1891.—*Mr. Laurier*.....*Not printed.*

39*c*. Return to an order of the House of Commons, dated 5th May, 1891, for a return showing the contingent expenses of the several salaried postmasters of the dominion for the fiscal years 1888, 1889 and 1890. Presented to the House of Commons, 24th July, 1891.—*Mr. McMullen*—
Printed for sessional papers only.

39*d*. Return to an order of the House of Commons, dated 15th May, 1891, for a return showing the amount deposited in each of the post office and dominion savings banks in the dominion on the 30th June, 1891. Presented to the House of Commons, 12th August, 1891.—*Mr. McMullen*—
Not printed.

39*e*. Return to an order of the House of Commons, dated 20th July, 1891, for copies of correspondence between the proprietor or proprietors of the newspaper *Le Canada*, published at Ottawa, and any member of the government ; also of any correspondence between any member of the government and any other person in relation to the suspension of the publication in the said newspaper *Le Canada*, of the table showing the arrival and departure of mails at the Ottawa post office. Presented to the House of Commons, 12th August, 1891.—*Mr. Beausoleil*.....*Not printed.*

39*f*. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, correspondence and petitions relating to the establishment of a post office in the township of Lowe, county of Ottawa ; also petitions, memorials and documents complaining of the mail service between Ste. Emile de Suffolk and St. André Avelin, in the county of Ottawa. Presented to the House of Commons, 17th August, 1891.—*Mr. Devlin*.....*Not printed.*

40. Return to an order of the House of Commons, dated 5th May, 1891, for copies of the tenders asked for to construct a graving dock at Kingston ; the tenders received ; the reports and calculations made by the engineers of the department of public works made and based on these tenders ; the contract which has been entered into ; the reports of the engineers which may have been made on the carrying out of the works ; or the changes which may have been made in them ; and also a statement of the sums paid out to the contractors up to date. Presented to the House of Commons, 4th June, 1891.—*Mr. Guay*.....*Not printed.*

40*a*. Return to an order of the House of Commons, dated 8th July, 1891, for copies of the tenders received and accepted for the construction of a caisson in connection with the Esquimalt graving dock ; the report of Mr. H. F. Perley in this connection ; and all other correspondence referring to this contract. Presented to the House of Commons, 4th August, 1891.—*Mr. Tarte*.....*Not printed.*

40*b*. Papers respecting the Kingston graving dock. Presented to the House of Commons, 6th July, 1891, by Sir Hector Langevin.....*Not printed.*

40*c*. Return to an address of the House of Commons to his excellency the Governor General, dated 1st July, 1891, for : 1. Copy of original plan and also of alteration made to Kingston dry dock, showing the additional excavations, crib work, extra masonry and additional iron works in caissons, together with the quantities of each class of extra work paid or undertaken to be paid for, and the rates of payment for the said extra work. 2. Copy of the order in council, dated 5th July, 1890, concerning the contract for the building of said dry dock. Presented to the House of Commons, 19th August, 1891.—*Mr. Amyot*.....*Not printed.*

40*d*. Return to an order of the House of Commons, dated 3rd August, 1891, for copies of all petitions, correspondence, reports of surveys and any other documents relating to the construction of a dry

dock at the town of Amherstburg. Presented to the House of Commons, 20th August, 1891.—*Mr. Allan*.....*Not printed.*

41. Return to an order of the House of Commons, dated 14th May, 1891, for a return giving the report of Mr. J. R. Arnoldi, engineer of the mechanical department of public works, to the special committee on ballot boxes last session. Presented to the House of Commons, 4th June, 1891.—*Mr. Landerkin*.....*Printed for sessional papers only.*

42. Return to an order of the House of Commons, dated 11th May, 1891, for a return of all papers, correspondence and other documents relating to the dredging on the bar of the Kaministiquia River, Thunder Bay, since July, 1890, including the advertisement, tenders received and contract for such dredging; also engineer's report to the department, showing what progress has been made in the work up to the 1st of December last; also statement showing the amounts paid on account of such work, to whom paid, dates and amounts of such payments. Presented to the House of Commons, 4th June, 1891.—*Mr. Campbell*.....*Not printed.*

43. Return to an order of the House of Commons, dated 5th May, 1891, for copy of the report of H. F. Perley, Esq., chief engineer of the public works department, respecting the causes of the flooding by the waters of the Richelieu River, of the lands of the riparian owners, in the counties of Iberville, St. John and Missisquoi. Presented to the House of Commons, 4th June, 1891.—*Mr. Béchard*.....*Not printed.*

43*a*. Return to an order of the House of Commons, dated 18th June, 1891, for copies of all correspondence, letters, reports and documents of every description, respecting the deepening of the river and the lifting and removal of boulders from the batture of St. Jean Deschaillons. Presented to the House of Commons, 22nd July, 1891.—*Mr. Rinfret*.....*Not printed.*

43*b*. Return to an order of the House of Commons, dated 13th July, 1891, for copies of reports of engineers as to improvements in the navigation of the Grand River. Presented to the House of Commons, 4th August, 1891.—*Mr. Montague*.....*Not printed.*

43*c*. Supplementary return to an address of the Senate to his excellency the Governor General, dated 21st January, 1890, for copies of all reports and other communications in reference to the deposit of sawdust, slabs and other offensive material in the Ottawa and other rivers of the dominion, together with a letter from the deputy minister of fisheries relative thereto. Presented to the Senate, 19th August, 1891.—*Hon. Mr. Clemow*.....*Printed for sessional papers only.*

43*d*. Return to an order of the House of Commons, dated 3rd August, 1891, for copies of petitions, correspondence, etc., relating to reconstruction, by private parties, of the Caledonia Dam, across the Grand River. Presented to the House of Commons, 14th September, 1891.—*Mr. Montague*—*Not printed.*

44. Return to an order of the House of Commons, dated 15th May, 1891, for copies of all letters, communications, and reports in the possession of the government, relating to the fixing of a standard of time and the legalization thereof. Presented to the House of Commons, 4th June, 1891.—*Mr. Kirkpatrick*.....*Printed for both distribution and sessional papers.*

45. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all letters and correspondence between the government or any member thereof, or any public department, and Mr. Solyme Forgues, of St. Michel de Bellechasse, returning officer, in relation to the last dominion election in the electoral district of Bellechasse. Presented to the House of Commons, 4th June, 1891.—*Mr. Amyot*.....*Not printed.*

46. Return to an order of the House of Commons, dated 18th May, 1891, for a return showing what amount of money was expended in repairing wharf at Big Bay, in the township of Keppel, North Grey, during the summer of 1890; whether the work was let by tender or private contract; who performed the work; who acted as inspector, and what compensation did the inspector receive. Presented to the House of Commons, 4th June, 1891.—*Mr. Somerville*.....*Not printed.*

47. Return to an order of the House of Commons, dated 27th May, 1891, for a return showing the number of bushels of potatoes exported from Canada from 1st October, 1890, to 1st May, 1891, and the place to which exported. Presented to the House of Commons, 6th June, 1891.—*Mr. McMullen*—*Printed for sessional papers only.*

48. Return to an order of the House of Commons, dated 3rd June, 1891, for a return of all correspondence between all persons and the department of marine and fisheries, recommending or with reference to a reward given to Captain Peterson of the American schooner "Seigfried," for his services in rescuing the captain and crew of the schooner "Blizzard," of Lunenburg, in October last. Presented to the House of Commons, 16th June, 1891.—*Mr. Flint*.....*Not printed.*

49. Return to an order of the House of Commons, dated 3rd June, 1891, for correspondence with the department of marine respecting presentation of binocular glasses to the volunteers rescuing the crew of the barque "Medmerly," lost on Ray's Island, Pictou County, in November last past. Presented to the House of Commons, 16th June, 1891.—*Mr. Fraser*..... .....*Not printed.*

50. Return to an order of the House of Commons, dated 18th May, 1891, for copy of all correspondence, papers and reports, in the possession of the government, relating to the locality for holding the camp of militia district No. 1, for the years 1890 and 1891. Presented to the House of Commons, 16th June, 1891.—*Mr. Hyman*..... ..... *Not printed.*

51. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials and any other documents submitted to the privy council, in connection with the abolition of the official use of the French language in the province of Manitoba by the legislature of that province; also copies of reports to, or orders in council thereon; also copies of the act or acts relating thereto. Presented to the House of Commons, 18th June, 1891.—*Mr. LaRivière*.....*Printed for both distribution and sessional papers.*

52. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of the order in council of date the 10th May, 1888, granting a subsidy of $12,500 per annum to Mr. Julien Chabot, for the use of the steamboat "Admiral," between Dalhousie and Gaspé, in connection with the Intercolonial Railway; and also of all other orders in council which may have been passed afterwards in respect to the same steamboat. Presented to the House of Commons, 19th June, 1891—*Mr. Guay*..... .....*Not printed.*

52*a*. Return to an order of the House of Commons, dated 5th May, 1891, for copies of the contract with the owners or owner, or the party in possession of the steamboat "Admiral," made by the government in consequence of an order in council bearing date the 10th May, 1888; also of the contracts, deeds or transfers which may have been executed or notified to the government, since the said date of the 10th of May, 1888; also a statement of the sums paid out for the use of the said steamboat; the names of the persons to whom these sums have been paid; and the date of the payments and of the receipts which have been given therefor. Presented to the House of Commons, 24th June, 1891.—*Mr. Guay*..... .....*Not printed.*

52*b*. Return to an address of the House of Commons to his excellency the Governor General, dated 13th July, 1891, for copies of any order or orders in council, adopted between the years 1883 and 1888, in relation to the steamer "Admiral" and the service performed by the said steamer between Dalhousie and Gaspé or other points, in connection with the Intercolonial Railway. Presented to the House of Commons, 10th August, 1891.—*Mr. Tarte*.....*Not printed.*

52*c*. Return to an address of the House of Commons to his excellency the Governor General, dated 13th July, 1891, for copies of the contract or contracts between the owners or owner or person in possession of the steamer "Admiral" and the government, between the years 1883 and 1888; also copies of all deeds of transfer, etc., filed with the government, in respect of the said steamer; also a statement of all sums paid during the said period of time for the service of the said steamer, with the names of the persons to whom the said sums were paid and the dates of such payments. Presented to the House of Commons, 10th August, 1891.—*Mr. Tarte*..... .....*Not printed.*

53. Return to an order of the House of Commons, dated 6th May, 1891, for a return showing the cost of construction of the several elevators built on the Intercolonial Railway and branches; showing where erected and the capacity of each; the date of erection, and the quantity of grain that passed through each of them, each year, since their completion. Presented to the House of Commons, 19th June, 1891.—*Mr. McMullen*..... .....*Not printed.*

53*a*. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all letters, documents, etc., between the officials of the Intercolonial Railway at Moncton and the department of railways in relation to the accident at St. Joseph de Lévis, on the 18th December, 1890. Presented to the House of Commons, 19th June, 1891.—*Mr. Carroll*.....*Not printed.*

53*b*. Return to an order of the House of Commons, dated 1st July, 1891, for all correspondence, telegrams, letters, reports and other papers relating to the proposed "additional property accommodation" of Intercolonial Railway at St. John, N.B. Presented to the House of Commons, 12th August, 1891.—*Mr. Davies*..... .....*Not printed.*

53*c*. Return to an order of the House of Commons, dated 8th July, 1891, for copies of all paper writings, documents, depositions, etc., respecting or in connection with the enquiry held at St. Flavie, on the line of the Intercolonial Railway, into the conduct of Mr. Hormidas Ouillet, superintendent

of the workshops of the said Intercolonial Railway, as well as in relation to any other employees. Presented to the House of Commons, 26th September, 1891.—*Mr. Choquette*.....*Not printed.*

54. Return to an order of the House of Commons, dated 11th May, 1891, for : 1. A statement of all fishing licenses granted in 1890, in the following counties : Berthier, Maskinongé, St. Maurice, Champlain, Nicolet, Yamaska and Richelieu, showing the names of those who obtained such licenses, the amount paid by each of them and the date of each payment. 2. A statement of the quantity and value of the several kinds of fish taken by the said license-holders, according to the reports of the fishery overseers for the said counties. 3. Copies of all instructions sent to the fishery overseers of the said several counties in 1890 and 1891, up to date. 4. Copies of all letters, petitions and complaints received in relation to this subject during the years 1890 and 1891, up to this date, and of all replies made thereto. 5. For a statement of the salaries of the fishery overseers of the said counties, and of all other costs and expenditure incurred by the government in connection with the fisheries of the counties aforesaid, during the year 1890. Presented to the House of Commons, 22nd June, 1891.....*Not printed.*

54*a*. Return to an order of the House of Commons, dated 3rd June, 1891, for a return showing the names of all persons in the county of Queen's, Nova Scotia, to whom fishing bounties have been paid during the last five years, with the amount paid each, and the dates of payment ; the amount still unpaid, with the names of the persons to whom such bounties are still due. Presented to the House of Commons, 23rd June, 1891.—*Mr. Forbes*.....*Not printed.*

54*b*. Return to an order of the House of Commons, dated 18th May, 1891, for a return of the names of all persons in the county of Guysboro' to whom fishing bounties have been paid during the last three years, with the amount paid each, the amount still unpaid with the names of the persons to whom such bounties are still due. Presented to the House of Commons, 23rd June, 1891.—*Mr. Fraser*—*Not printed.*

54*c*. Return to an order of the House of Commons, dated 27th May, 1891, for a return showing the amount paid for the supplies required by the crews of the several government vessels engaged in the fishery protection service, in the province of Ontario, for the fiscal year ending 30th June, 1890, together with the names of parties from whom purchases were made, and the prices paid. Presented to the House of Commons, 24th June, 1891.—*Mr. Somerville*.....*Not printed.*

54*d*. Return to an order of the House of Commons, dated 3rd June, 1891, for a return of papers, correspondence, reports and other documents in the possession of the government relating to the subject of the herring fisheries of the Bay of Fundy and its adjacent waters during the past year, including the report of the conference of fishery officers held at Ottawa on the subject. Presented to the House of Commons, 30th June, 1891.—*Mr. Bowers*.....*Not printed.*

54*e*. Return to an order of the House of Commons, dated 13th May, 1891, for a return of the costs and expenses of adjusting the amounts claimed for fishery bounties and of preparing and distributing the fishery bounty cheques in each year since 1883, and also the names of the persons authorized to distribute the bounty cheques in the province of Nova Scotia during the years 1889, 1890 and 1891. Presented to the House of Commons, 16th July, 1891.—*Mr. Flint*—

Printed for sessional papers only.

54*f*. Return to an order of the House of Commons, dated 13th May, 1891, for a return giving the names of all persons in the county of Guysboro' fined for violation of the fishery laws, since the 1st day of January, 1890 ; the amount of each fine and costs ; the sum collected of each ; the names of the parties whose fines have been remitted, with the reason for such remission ; the names of parties in said county against whom fines are still outstanding, with the amount of each and costs. Presented to the House of Commons, 22nd June, 1891.—*Mr. Fraser*.....*Not printed.*

54*g*. Return to an address of the House of Commons to his excellency the Governor General, dated 15th May, 1891, for a return of all papers, letters and documents in any way whatever relating to the dispensing with the services of J. R. Graham, of Fenelon Falls, as fishery inspector or overseer within the county of Victoria, and of all communications with or representations to the government, or any member thereof, or any officer or clerk in the department of marine and fisheries, relating to the said J. R. Graham and the performance of his duties prior to dispensing with his services ; and of all new rules or regulations (if any) for the appointment of fishery inspectors in said county and the performance of their duties. Presented to the House of Commons, 3rd August, 1891.—*Mr. Barron*.....*Not printed.*

54*h*. Return to an address of the Senate to his excellency the Governor General, dated 30th April, 1890, for copies of all departmental orders relating to the fisheries of the counties of Richelieu and Ber-

thier, and a copy of all correspondence had since 1887 between the department of fisheries and the fishery officers of the said counties on this subject. Presented to the Senate, 14th July, 1891.—*Hon. Mr. Guévremont*.....*Not printed.*

54*i*. Return to an order of the House of Commons, dated 27th July, 1891, for copies of all correspondence connected with the appointment of George Boisvert as fishery officer over that portion of the River St. Lawrence along the front of the county of Nicolet. Also for copies of all correspondence connected with the issuing of fishing licenses for the county of Nicolet between Fabien Boisvert, at that time member of the House of Commons of Canada, or any other persons, and the government. Presented to the House of Commons, 21st August, 1891.—*Mr. Leduc*.....*Not printed.*

55. Return to an order of the House of Commons, dated 18th May, 1891, for a return for the years 1889 and 1890 of all reports from or correspondence with the superintendent of the Prince Edward Island Railway, with respect to the condition of the road-bed or the rails of such railway, together with any reports or representations made with respect to such road-bed or rails by any of the track masters or other officers of said road. 2. Showing what portion in mileage of such road-bed has been relaid with steel rails since the completion of such road. Presented to the House of Commons, 2nd July, 1891.—*Mr. Davies*.....*Not printed.*

56. Statement of the affairs of the British Canadian Loan and Investment Company, for the year ended 31st December, 1890; also a list of shareholders on 31st December, 1890. Presented to the Senate, 4th May, 1891, by the Hon. the Speaker.....*Not printed.*

57. Return to an order of the House of Commons, dated 5th May, 1891, for a return showing the quantities and kinds of timber and sawlogs cut annually in the lately disputed territory, in the province of Ontario, under the authority of timber licenses issued by the government of Canada; the names of such licensees; and showing also how the dues were imposed, and the amount per thousand feet, board measure, realized by the government of Canada from each person or firm so licensed in each year from 1875 to 1887, inclusive; or what royalty or other revenue was received by the government from licensees aforesaid on such quantities cut or sold. Presented to the House of Commons, 6th July, 1891.—*Mr. Barron*.....*Printed for sessional papers only.*

58. Return to an order of the House of Commons, dated 12th May, 1891, for a return giving the date at which the steamer "Stanley" commenced running between Prince Edward Island and the mainland in the fall of 1890, how many trips made, date of each trip, the number of passengers and the amount of freight taken to and from Prince Edward Island; the amount of money collected on account of passengers and the amount for freight; also the expenses of working said steamer during the winter of 1891, and the date at which said steamer stopped running from Prince Edward Island to the mainland; together with the report of the deputy minister, dated 5th March, 1891, touching this steamer, and all correspondence, telegrams and representations made to the marine and post office departments touching the mail and steamboat service between the island and the mainland. Presented to the House of Commons, 13th July, 1891.—*Mr. Perry*—*Not printed.*

59. Return to an address of the House of Commons to his excellency the Governor General, dated 8th July, 1891, for copies of all petitions, correspondence and documents whatsoever, respecting the grant of a subsidy to the Quebec Oriental Railway. Presented to the House of Commons, 20th July, 1891.—*Mr. Vaillancourt*.....*Not printed.*

60. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, letters or telegrams addressed to the auditor general with reference to the payment of accounts as rendered to the auditor general by the returning officer of the electoral district of the east riding of Elgin; also the names and post office addresses of the returning officer, deputy returning officers, poll clerks and constables for the electoral district of the east riding of Elgin; also the respective amounts as claimed by each; the amount actually paid to each up to date, including amount of balance, if any, as rendered by the returning officer in his original account to the auditor general. Presented to the House of Commons, 14th July, 1891.—*Mr. Ingram*—*Not printed.*

60*a*. Return to an address of the House of Commons, to his excellency the Governor General, dated 27th July, 1891, for copy of all correspondence between John A. Macdonald, M. P. (Victoria, N. S.), or any other parties in the county of Victoria, N. S., and the government, or any department or official of the government, previous to the late general elections, in reference to the appointment of a returning officer at said elections for said county. Presented to the House of Commons, 3rd August, 1891.—*Mr. Flint*.....*Not printed.*

61. Return to an order of the House of Commons, dated 18th June, 1891, for copy of the report of Collingwood Schreiber, Esq., upon survey made by him of the river St. Lawrence immediately opposite and in the vicinity of the city of Quebec, for the purpose of ascertaining whether it was possible to build a railway bridge there. Presented to the House of Commons, 14th July, 1891. —*Mr. Laurier.* . . . . . *Printed for both distribution and sessional papers.*

62. Return to an address of the House of Commons to his excellency the Governor General, dated 11th May, 1891, for all correspondence between any department of the government and H. E. Hartley, late lockmaster on the Carillon and Grenville Canal, in reference to his retirement from the civil service, and any report to council or order in council upon the same subject, together with all papers connected with the dismissal of Mr. Hartley. Presented to the House of Commons, 26th June, 1891.—*Mr. Christie.* . . . . . *Not printed.*

62*a*. Return to an order of the House of Commons, dated 1st July, 1891, for a copy of the report of Thos. Monro, government engineer, upon the Manchester Ship Canal. Presented to the House of Commons, 21st July, 1891.—*Mr. Mulock.* . . . . . *Printed for both distribution and sessional papers.*

62*b*. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, correspondence, documents and papers showing the number of extra or additional men employed on the old and new Welland Canal, between the 10th day of February, 1891, and the 7th day of March, 1891 ; the names of such men, the work required to be done, and the amount of money paid to each man. Presented to the House of Commons, 28th July, 1891.—*Mr. German.* . . . . *Not printed.*

62*c*. Return to an address of the Senate to his excellency the Governor General, dated 17th June, 1891, for a statement and account showing the amount of money received and taken in excess of what was just and proper by William Ellis, superintendent of the Welland Canal, if any, from the 29th day of December, 1879, until the 11th day of September, 1889 ; also a statement showing the amount of money paid back by Mr. Ellis, if any, and date of payments, if any. Further, a copy of the bond given as security by Mr. Ellis, if any, to secure the payment of the money taken in excess. Presented to the Senate, 29th July, 1891.—*Hon. Mr. McCallum.* . . . . . *Not printed.*

62*d*. Return to an address of the House of Commons to his excellency the Governor General, dated 17th June, 1891, for copies of all petitions, letters and communications from the city of St. Catharines, and other municipalities on the Welland Canal, or from any persons or corporations, for the privilege of using surplus water from said canal for manufacturing or other purposes ; and of the reports of engineers of canals, thereon, and the replies of the government to all such applications. Presented to the House of Commons, 12th August, 1891.—*Mr. Gibson.* . . . . . *Not printed.*

62*e*. Return to order of the House of Commons, dated 13th July, 1891, for : 1. Copies of the specifications prepared by the government and which formed the basis of the call for tenders for the work of constructing a drain from Lachine to Cote St. Paul, along the Lachine Canal. 2. Copies of all tenders filed for the said work, and of the reports of the officers of the department of railways and canals thereupon. 3. Copies of the report awarding the contract for the said work, and of the said contract. Presented to the House of Commons, 12th August, 1891.—*Mr. Préfontaine.* . . *Not printed.*

62*f*. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all reports of engineers respecting the proposed Soulanges Canal, showing the number of sections into which the work is to be divided, the length of each section, the quantities of the several classes of work in each section, and detailed estimates of the cost of each section ; the whole to be accompanied with a continuous tracing or plan and profile of the whole line showing the several sections and the structures of each section. Presented to the House of Commons, 12th August, 1891.—*Mr. Mousseau.* . . . . . *Not printed.*

62*g*. Return to an order of the House of Commons, dated 27th May, 1891, for a statement showing all expenditure, and a return of all reports and plans of government engineers, if any, in connection with the Soulanges Canal, from 1873 to 1889, exclusively, and from 1889, inclusively, to June, 1890 ; also a return of all plans and specifications made by engineers and completed by them, at the said date, June, 1890, in relation to the said Soulanges Canal. Presented to the House of Commons, 12th August, 1891.—*Mr. Mousseau.* . . . . . *Printed for both distribution and sessional papers.*

62*h*. Return to an address of the House of Commons to his excellency the Governor General, dated 27th May, 1891, for copies of all tenders, both first and second calls, for sections one, two and three respectively, of the enlargement of the Rapide Plat or Morrisburg Canal, a division of the St. Lawrence Canals, the return to comprise the quantities of the several items in the schedule of prices on which the tenders were computed, and the aggregate of each tender. Also copies of all correspondence, orders in council, reports of engineers relating to the tenders, or contracts, for

works, or as to changes in location or of designs, and all estimates in detail of the cost of said works and the reason for rejecting the first batch of tenders. Presented to the House of Commons, 21st August, 1891.—*Mr. Murray*. . . . . *Not printed.*

62*i*. Return to an order of the House of Commons, dated 3rd June, 1891, for a return of all letters and memorials complaining of the high water in the Rideau Canal between Kingston and Jones' Falls; copies of letters from Colonel By and others, showing the depth of water allowed for vessels navigating the canal; a statement showing the average depth of water in the canal for the first forty years after construction, and for the last ten years; also for copies of plans and reports of engineers engaged on the survey of the Kingston Mills Level, showing the estimate of cost of lowering the water and the quantity of land to be reclaimed if the water is lowered. Presented to the House of Commons, 26th September, 1891.—*Mr. Kirkpatrick*. . . . . *Not printed.*

63. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials, briefs and factums, and of any other documents submitted to the privy council in connection with the abolition of separate schools in the province of Manitoba by the legislature of that province; also copies of reports to, and orders in council thereon; also copies of any act or acts of said legislature abolishing said separate schools or modifying in any way the system existing prior to 1890. Presented to the House of Commons, 20th July, 1891.—*Mr. LaRivière*. . . . . *Printed for both distribution and sessional papers.*

63*a*. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for a copy of all petitions presented to his excellency with reference to the school acts of Manitoba; and all memorials, reports, orders in council and correspondence in connection with the same. Presented to the House of Commons, 20th August, 1891.—*Mr. Devlin*. . . . . *Not printed.*

63*b*. Supplementary return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials, briefs and factums, and of any other documents submitted to the privy council in connection with the abolition of separate schools in the province of Manitoba by the legislature of that province; also copies of reports to, and orders in council thereon; also copies of any act or acts of said legislature abolishing said separate schools or modifying in any way the system existing prior to 1890. Presented to the House of Commons, 4th September, 1891.—*Mr. LaRivière*—

Printed for both distribution and sessional papers.

64. Return to an order of the House of Commons, dated 13th July, 1891, for copies of the petition of right presented to the minister of justice for his *fiat* by Joseph Desmarteau for improvements alleged to have been made by him on a "piece of land forming part of the property heretofore known as Logan's Farm, and being a portion of the lot number eleven hundred and thirty-six (1136) of the official plan and book of reference of the St. Mary's Ward, in the city of Montreal, measuring one hundred and fifty-six feet in width by a depth of four hundred and fifty-two (452) feet on the south-west side, and four hundred and eighty-seven (487) feet on the north-east side, English measure, and more or less, and being bounded on the north-east side by the highway known as Papineau Road, on the south-west side by a portion of the said lot number eleven hundred and thirty-six (1136), on the south-east by the lot number eleven hundred (1100) of said plan and book of reference, and on the north-west by Sherbrooke Street, being another portion of the said lot eleven hundred and thirty-six;" of the decision of the minister of justice; and of all correspondence on the same. Presented to the House of Commons, 21st July, 1891.—*Mr. Laurier*. . . . . *Not printed.*

65. Return to an address of the Senate to his excellency the Governor General, dated 12th May, 1890, for a statement showing the expenses incurred by the inspector of penitentiaries in his visits, ordinary or extraordinary, to St. Vincent de Paul Penitentiary during the last ten years, as well as his personal expenses for each day of such visits, as those occasioned on each day of such visits by his travelling from Montreal to St. Vincent de Paul, and *vice versa*, for horses, servants, and their keep and lodging. Presented to the Senate, 18th June, 1891.—*Hon. Mr. Bellerose*. . . . *Not printed.*

65*a*. Supplementary return *re* St. Vincent de Paul Penitentiary. Presented to the Senate, 19th June, 1891, by Hon. Mr. Abbott. . . . . *Not printed.*

65*b*. Return to an address of the Senate to his excellency the Governor General, dated 30th July, 1891, for a detailed copy of accepted tender, giving estimated quantity, price per unit, and amount of all drugs and medicines to be supplied the British Columbia Penitentiary by McPherson & Thompson, of New Westminster, B.C., for the year ending 30th June, 1892. Presented to the Senate, 12th August, 1891.—*Hon. Mr. McInnes (Victoria, B.C.)*. . . . . *Not printed.*

66. Return to an address of the Senate to his excellency the Governor General, dated 23rd June, 1891, for copies of all correspondence between the department of justice and the judges in Canada charged with judicial functions in criminal matters as well as the attorney general of each province, respecting the expediency of abolishing the functions of the grand jury in relation to the administration of criminal justice. Presented to the Senate, 8th July, 1891.—*Hon. Mr. Gowan*—
Printed for both distribution and sessional papers.

67. Statement of amounts paid for claims for bounty on pig iron manufactured in the dominion; showing quantities claimed upon and names of claimants, as well as amount paid in each case. Presented to the House of Commons, 28th July, 1891, by Hon. Mr. Bowell—
Printed for both distribution and sessional papers.

68. Return to an address of the House of Commons to his excellency the Governor General, dated 1st July, 1891, for a statement showing the amount of dominion notes in circulation on 31st May, 1891, and amount of gold and guaranteed debentures held in security on said date for redemption of said notes. Also statement showing the proportion of such gold reserve held by the minister of finance and receiver-general, and the proportion thereof held by any chartered banks for such redemption. Also statement showing the arrangements made with such banks, under which they hold such gold reserve. Presented to the House of Commons, 29th July, 1891.—*Mr. Mulock*—
Not printed.

69. Departmental report on charges preferred against the Commissioner of the North-West Mounted Police. Presented to the House of Commons, 30th July, 1891, by Sir John Thompson—
Printed for sessional papers only.

70. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all correspondence since 1st July, 1890, from the New Glasgow board of trade and other boards or persons, respecting the through train from Sydney, C.B, to Oxford, Cumberland County, *viâ* the Short Line Railway. Also copies of all correspondence during said time from any person or persons, asking for better railway accommodation between Pictou and New Glasgow, to and from Halifax. Presented to the House of Commons, 31st July, 1891.—*Mr. Fraser*.....*Not printed.*

71. Return to an order of the House of Commons, dated 27th May, 1891, for copies of all tenders for the construction of the Annapolis public buildings; a copy of the contract entered into with the Government for the construction of the same; a copy of the conveyance to the Queen of the land upon which the same are erected; a statement of all amounts paid to the contractor on account of the work, with dates of payment. Presented to the House of Commons, 4th August, 1891.—*Mr. Lister*—
Not printed.

72. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence and all documents, or other information in the possession of the Government, relating to entire horses stationed at the central experimental farm, or at any other of the experimental farms in the dominion of Canada. Presented to the House of Commons, 4th August, 1891.—*Mr. McMillan*—
Not printed.

73. Return to an order of the House of Commons, dated 27th July, 1891, for copies of all correspondence and orders relative to the dismissal of William Saunders and William Muttart, section foremen of the Prince Edward Island Railway, in March or April last. Presented to the House of Commons, 10th August, 1891.—*Mr. Perry*.....*Not printed.*

73*a*. Return to an order of the House of Commons, dated 27th July, 1891, for a return of all correspondence, letters or papers in any way connected with the dismissal, in June, 1884, of one Samuel Johnston, from his position as a preventive officer, in her majesty's customs, for the station from Clifton to Dunnville. Presented to the House of Commons, 23rd September, 1891.—*Mr. German*—
Not printed.

74. Return to an order of the House of Commons, dated 27th May, 1891, for a return showing: 1. Copies of all reports and correspondence relating to the permit system, and the administration thereof; copies of all regulations under which liquor is brought into the North-West Territories and sold there; also copies of all memorials addressed to the government relating to the present system and the sale of liquors, and the replies to the same. 2. Copies of orders or regulations relating to the sale of liquor on passenger trains in the North-West Territories, and within the limits of Banff Park, and statement of kinds and quantities of liquor so sold. Presented to the House of Commons, 12th August, 1891.—*Mr. Watson*.....*Not printed.*

75. Return to an order of the House of Commons, dated 18th June, 1891, for copies of the pay-roll of the last military camp at Sorel and St. John's, P.Q. Presented to the House of Commons, 18th August, 1891.—*Mr. Lépine*.....*Not printed.*

75*a*. Statement showing names of tenderers, names of contractors and contract prices of military clothing for 1891-92. Presented to the House of Commons, 21st August, 1891, by Sir Adolphe Caron—
Printed for sessional papers only.

76. Return to an order of the House of Commons, dated 17th June, 1891, for copies of all correspondence between the minister of customs and the collector of customs at Kootenay Lake, and between the minister of customs and any other person, relating to the admission of mining machinery into the Kootenay Lake district free of duty. Also a copy of instructions from the minister of customs to the collector of customs on Kootenay River, referring to the free admission of mining machinery. Presented to the House of Commons, 20th August, 1891.—*Mr. Mara*..... *Not printed.*

77. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, reports, paper writings and documents respecting the seizure and sale of the schooner "Marie Eliza," in 1887, by the collector of customs at Rimouski. Presented to the House of Commons, 20th August, 1891.—*Mr. Langelier*..... *Not printed.*

78. Return to an order of the House of Commons, dated 1st July, 1891, for a return showing:—1. The names of all permanent clerks in the department of public works, their duties and annual salaries. 2. Names of all extra clerks in the said department, their salaries, and the kind of work performed; also copies of their civil service examination certificates. 3. The names of all persons doing extra work outside of the building, and the nature of work, giving the names of ladies and gentlemen separately. 4. The names of mechanics or others employed in the government workshops at Ottawa. 5. The names of all messengers employed in the said department, either permanent or temporary. 6. The number and names of all labourers employed by the said department since January last, in and around the buildings under government control at Ottawa, including Rideau Hall, stating the kind of work performed and wages paid. Presented to the House of Commons, 21st August, 1891.—*Mr. McMullen*..... *Not printed.*

79. Return to an order of the House of Commons, dated 13th July, 1891, for: 1. Copies of all claims presented to the government since 1880, by Mr. Joseph Antoine Maurice, merchant, of the village of Chambly Basin, and Dame Julie Fournier, his wife, for losses suffered by them in reference to lands purchased by them from the government in 1875. 2. Copies of all correspondence and letters addressed to any department of the government by any person or persons, in relation to said matter. 3. Copies of all correspondence between any of the said departments, or between any Department and the claimants, or any persons acting for them or in their interests, in relation to such claims. 4. Copies of the order of reference made by government referring the said claims to Joseph Simard, Esq., then dominion arbitrator, and of his award. 5. Copies of correspondence following the said award. 6. Copies of the opinions given on the subject by the honourable the minister of public works, and of the opinion of the honourable the minister of justice. Presented to the House of Commons, 21st August, 1891.—*Mr. Préfontaine*..... *Not printed.*

80. Return to an address of the House of Commons to his excellency the Governor General, dated 18th June, 1891, for copies of order in council, correspondence, reports, statement of claims, receipts or accounts with or made by Dr. Walker, or on his behalf, or with or by any other person respecting the Dundas and Waterloo macadamized road, since the close of the session of 1889. Presented to the House of Commons, 24th August, 1891.—*Mr. Bain*..... *Not printed.*

81. Return to an address of the House of Commons to his excellency the Governor General, dated 3rd June, 1891, for copies of all correspondence between the imperial government and the government of Canada, on the subject of the copyright laws of Canada, and all other papers relating thereto, not already brought down. Presented to the House of Commons, 24th August, 1891.—*Mr. Edgar*—
Not printed.

82. Third census of Canada—statement of population—compared with preceding censuses, 1891. Presented to the House of Commons, 26th August, 1891, by Hon. J. Haggart—
Printed for distribution only.

82*a*. Census of Canada, 1891—electoral divisions—statement of population by districts. Also census bulletin No. 1, and statements of population of cities, of towns and of villages. Presented to the House of Commons, 27th August, 1891, by Hon. J. Haggart....*Printed for distribution only.*

83. Return to an order of the House of Commons, dated 3rd August, 1891, showing: 1. The names of all employees of the customs at Montreal; the date of their appointment; their respective duties; the salary of each; their nationality; their place of birth; and, in case of their not having been born in Canada, for what period they had been in this country at the time of their appointment; and upon whose recommendation they had been appointed. 2. Whether they have all

passed the civil service examination, and the names of those, if any, who have not passed this examination, since the law requiring it has been in force. 3. The names of those, if any, who have received salaries or pay in addition to that attached to the offices to which they were appointed ; the amounts received by such persons, and for what additional work given. 4. The names of the extra labourers for whose services there was paid in 1889-90 the sum of $12,176.25, as recorded in the Auditor General's Report for the year 1889-90 at page C—254. 5. To whom was paid the sum of $5,930.29 for cartage at the customs house at Montreal, as recorded in the said report of the Auditor General at page C—254. Presented to the House of Commons, 14th September, 1891.—*Mr. Lépine*..... *Not printed.*

84. Return to an order of the House of Commons, dated 27th May, 1891, for copies of all correspondence, memoranda, documents, letters, petitions and all papers whatsoever in relation to the encouragement of the cultivation of the sugar beet and the protection of the manufacture and refining of beet-root sugar in the dominion of Canada, exchanged between the government or any of its members and any person or company. Presented to the House of Commons, 23rd September, 1891.—*Mr. Beausoleil*..... *Not printed.*

85. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, papers and documents relating to the appointment of customs officers at Crystal Beach and Point Abino, in the township of Bertie, and Carroll's Landing, in the township of Humberstone, in the county of Welland. Presented to the House of Commons, 23rd September, 1891.—*Mr. German*— *Not printed.*

86. Return to an address of the Senate to his excellency the Governor General, dated 14th September, 1891, for all correspondence between his excellency and the Lieutenant Governor of the province of Quebec, in connection with the Baie des Chaleurs Railway, and all other papers and correspondence in the possession of the government on that subject. Presented to the Senate, 16th September, 1891.—*Hon. Mr. Miller*..... *Not printed.*

86*a*. Supplementary return to an address of the Senate to his excellency the Governor General, dated 14th September, 1891, for all correspondence between his excellency and the lieutenant governor of the province of Quebec, in connection with the Baie des Chaleurs Railway, and all other papers and correspondence in the possession of the government on that subject. Presented to the Senate, 23rd September, 1891.—*Hon. Mr. Miller*..... *Not printed.*

86*b*. Return to an address of the Senate to his excellency the Governor General, dated 21st August, 1891, for an account showing all the moneys expended by subsidy or otherwise on the Baie des Chaleurs Railway, from the commencement of the works thereon to the present time ; the names of those to whom paid, and the amount, if any, appropriated to said works and remaining unpaid by the government of Canada. Presented to the Senate, 24th September, 1891.—*Hon. Mr. McInnes (Victoria, B.C.)*..... *Not printed.*

87. Return to an address of the Senate to his excellency the Governor General, dated 29th May, 1891, for copies of all orders in council, commissions and instructions for nominating a person or persons specially charged to examine the situation and resources of that part of the dominion known as the Great Basin of the Mackenzie ; and also of the report or reports made by such persons, in order to put the government in a position to decide upon the measures necessary for the protection and development of the territory. Presented to the Senate, 23rd September, 1891.—*Hon. Mr. Girard*..... *Printed for sessional papers only.*

88. General statements and returns of baptisms, marriages and burials in the district of Chicoutimi, Gaspé, Montmagny and Iberville..... *Not printed.*

ANNUAL REPORT

OF THE

DEPARTMENT OF FISHERIES

DOMINION OF CANADA

FOR

THE YEAR 1890.

PRINTED BY ORDER OF PARLIAMENT.

OTTAWA:
PRINTED BY BROWN CHAMBERLIN, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY.

1891.

To His Excellency the Right Honourable Lord Stanley of Preston, P.C., G.C.B., &c., &c., &c., Governor General of Canada, &c., &c., &c.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Fisheries for the year 1890.

All of which is respectfully submitted,

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

OTTAWA, 13th February, 1891.

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REPORT OF THE DEPARTMENT OF FISHERIES

FOR THE YEAR 1890.

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PART II.

FISHERIES PROTECTION SERVICE—Report by Lieut. A. R. Gordon, R.N. (Separately indexed.)

SEVENTH ANNUAL REPORT

OF THE

DEPUTY MINISTER OF FISHERIES, 1890.

To the Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—I have the honour to submit the Annual Report of the Fisheries Department for the year 1890.

This report deals with the financial statements for the fiscal year ended 30th June, 1890, and such other general matters as are available. The fisheries statistics, however, and other data having reference to the season's catch, which are compiled to the end of the calendar year, will form the subject of a supplementary report.

EXPENDITURE AND RECEIPTS.

The total expenditure of the Department for all services, except Civil Government, amounted to, for the fiscal year, $328,748.66, from appropriations of $383,300.00, leaving an unexpended balance of $54,551,34, which lapses to the treasury, no portion of this sum having been brought down for expenditure during the current fiscal year.

The revenue of the Department, including the receipts for licenses from United States' fishing vessels, and the proceeds of the sale of the condemned schooner "David J. Adams," amounted to the sum of $56,976.83.

EXPENDITURE.

The sub-division of the expenditure is as follows :—

Service.	Expenditure.	Vote.
	$ cts.	$ cts.
Fisheries	65,873 32	80,500 00
Fish-breeding	39,126 91	40,000 00
Fisheries protection service	64,434 66	100,000 00
Fishing bounty	149,999 85	150,000 00
Miscellaneous expenditure	9,313 92	12,800 00
Total	328,748 66	383,300 00

The details are printed in the Auditor General's Report, under the proper heading.

In addition to the above, the following summary shows the salaries and disbursements of Fishery officers in the several Provinces, together with the expenses for maintenance of the different fish-breeding establishments throughout the Dominion:—

Service.	Expenditure.	Vote.
	$ cts.	$ cts.
Fisheries, Ontario	14,539 87	20,000 00
do Quebec	9,670 94	14,000 00
do Nova Scotia	17,395 24	18,000 00
do New Brunswick	14,914 95	16,000 00
do Prince Edward Island	3,113 21	3,500 00
do British Columbia	3,634 41	6,000 00
do Manitoba	2,604 70	3,000 00
Total	65,873 32	80,500 00
Fish-breeding, Newcastle hatchery	5,583 66	
do Sandwich do	3,911 95	
do Ottawa do	1,998 70	
do Tadoussac do	2,393 91	
do Gaspé do	1,420 99	
do Magog do	679 02	
do Ristigouche do	3,876 23	
do Bedford do	3,768 31	
do Sydney do	2,838 64	
do Miramichi do	1,904 20	
do St. John River do	1,823 57	
do Fraser River do	4,202 61	
General account	4,725 12	
Total	39,126 91	40,000 00

This Expenditure by Provinces is sub-divided as follows—

	$ cts.	$ cts.
Ontario.		
Salaries of officers	9,832 36	
Disbursements of officers	4,433 96	
Miscellaneous	273 55	
Total		14,539 87
Quebec.		
Salaries of officers	6,991 57	
Disbursements of officers	2,516 83	
Miscellaneous	162 54	
Total		9,670 94
Nova Scotia.		
Salaries of officers	12,699 47	
Disbursements of officers	4,378 48	
Miscellaneous	317 29	
Total		17,395 24
New Brunswick.		
Salaries of officers	11,106 12	
Disbursements of officers	3,776 04	
Miscellaneous	32 79	
Total		14,914 95
Prince Edward Island.		
Salaries of officers	2,838 12	
Disbursements of officers	260 00	
Miscellaneous	15 09	
Total		3,113 21
British Columbia.		
Salaries of officers	1,982 90	
Disbursements of officers	1,070 60	
Miscellaneous	580 91	
Total		3,634 41
Manitoba.		
Salaries of officers	1,583 48	
Disbursements of officers	963 94	
Miscellaneous	57 28	
Total		2,604 70
Total		65,873 32
MISCELLANEOUS.		
Legal and incidental expenses	906 96	
Canadian fisheries exhibits	792 90	
Expenditure in connection with distribution of fishing bounties	6,050 21	
Herring delegation	1,563 85	
Total		9,313 92
Grand Total		75,187 24

FISH BREEDING.

	$ cts.	$ cts.
Newcastle Hatchery.		
Salaries	1,407 76	
Miscellaneous expenditure	4,175 90	
Total		5,583 66
Sandwich Hatchery.		
Salaries	900 00	
Miscellaneous expenditure	3,011 95	
Total		3,911 95
Ottawa Hatchery.		
Salaries	282 00	
Miscellaneous expenditure	1,716 70	
Total		1,998 70
Tadoussac Hatchery.		
Salaries	984 00	
Miscellaneous expenditure	1,409 91	
Total		2,393 91
Gaspé Hatchery.		
Salaries	350 03	
Miscellaneous expenditure	1,070 96	
Total		1,420 99
Magog Hatchery.		
Salaries	600 00	
Miscellaneous expenditure	79 02	
Total		679 02
Restigouche Hatchery.		
Salaries	968 33	
Miscellaneous expenditure	2,907 90	
Total		3,876 23
Bedford Hatchery.		
Salaries	1,300 00	
Miscellaneous expenditure	2,468 31	
Total		3,768 31
Sydney Hatchery.		
Salaries	859 92	
Miscellaneous expenditure	1,978 72	
Total		2,838 64

FISH BREEDING—*Concluded.*

Miramichi Hatchery.	$ cts.	$ cts.
Salaries	499 92	
Miscellaneous expenditure	1,404 28	
Total		1,904 20
St. John River Hatchery.		
Salaries	600 00	
Miscellaneous expenditure	1,223 57	
Total		1,823 57
Fraser River Hatchery.		
Salaries	1,950 00	
Miscellaneous expenditure	2,252 61	
Total		4,202 61
GENERAL ACCOUNT.		
Salaries of Superintendent and Clerk	2,350 26	
Miscellaneous expenditure	2,374 86	
Total		4,725 12
Total, Fish Breeding		39,126 91

STATEMENT of Fisheries Revenue paid to the credit of the Receiver-General of Canada, for the Fiscal Year ended 30th June, 1890.

	$ cts.	$ cts.
Ontario—		
Rents, license fees and fines	23,666 96	
Quebec—		
Rents, license fees and fines	5,409 81	
Nova Scotia—		
Fishery licenses and fines	5,424 95	
New Brunswick—		
Rent, license fees and fines	8,834 35	
British Columbia—		
Rent, license fees and fines	11,367 50	
Manitoba and North-West Territories—		
Fishery licenses and fines	794 00	
Prince Edward Island—		
Fishery licenses and fines	302 88	
Proceeds of sale of the United States' fishing schooner "David J. Adams"	1,176 38	
Total		56,976 83

THE STAFF.

The changes in and additions to the outside staff of the Department have, during the year, been as follows :—

ONTARIO.

Owing to the illness of Overseer Charles Wilkins, of Belleville, Mr. William Clark of that place was formally authorized, on 20th August, to look after Mr. Wilkin's District; and subsequently, on the death of Mr. Wilkins, Mr. Clark succeeded to the overseership on the 20th September, 1890.

The services of Mr. Samuel Frazer, Fishery Overseer at Midland, were, 21st January, 1890, dispensed with for inattention to duty.

On the 20th May, 1890, the services of Mr. George Cochrane, Fishery Overseer for the inland waters of Peterborough County, were dispensed with for inattention to duty, and Mr. George W. Fitzgerald, of Lakefield, was appointed in his place on the 4th November last.

Mr. Andrew Telfer, of Braeside, resigned the office of Fishery Overseer for Lake Des Chats and Bonnechère River.

By the appointment of Mr. Charles W. Evans, of Cayuga, Fishery Overseer for a portion of the Grand River, the district of Mr. W. A. McCrae, of Dunnville, was curtailed to the extent of that allotted to Mr. Evans, viz., from the division line between North Cayuga and Cansborough on the east, to Caledonia on the west.

Owing to the death of Overseer James Greer, of Warburton, and the removal from his district of Overseer H. W. Johnston, of Farmersville, in April and March respectively, the Charleston Lake Division was reorganized and the salaries of the two overseers divided between four new ones, viz.: Samuel Boddy, of Athens; David Edgar, of Lyndhurst; John Moorehead, of Lyndhurst; and James Greer (a son of the deceased overseer) of Warburton, who were appointed on the 31st May, 1890.

Mr. Albert E. Mills, of Smith's Falls, having resigned the fishery overseership of Rideau River and Canal in that vicinity, was replaced by a temporary guardian, whose services will be utilized from time to time as required.

Mr. Thomas McKibbon, of Eganville, Fishery Overseer for Mink Lake and Lake Dore, in the County of Renfrew, resigned on the 31st January, 1890.

Mr. Henry W. Gill, of Ufford, was, on the 1st July, 1890, appointed a Fishery Overseer for the Muskoka Lakes, &c., which position was rendered vacant by the death of Mr. A. H. Smith, which took place in April, 1888.

Mr. J. C. Bowen, of Marmora, was, on the 21st July, 1890, appointed a Fishery Overseer for Crow River and Lake, and Belmont Lake in the Counties of Hastings and Peterboro'.

Mr. William Gainforth, of Haliburton, was, on the 21st July, 1890, appointed Fishery Overseer for the inland waters of the East Riding of Peterboro', in place of Mr. John Dauncey, whose services were dispensed with on the 28th December, 1889, for inattention to duty.

On the 4th November, 1890, Mr. George Thompson, of Sudbury, in the District of Algoma, was appointed a Fishery Overseer for Ramsey's Lake and neighbouring waters.

Mr. David Breeze, of Peterboro', was, on the 4th November, 1890, appointed a Fishery Overseer for Otonabee River.

The following Indian Agents were, on the 8th of March, 1890, appointed Fishing Overseers, without pay:—

Messrs. R. J. N. Pither, Lake of the Woods, Rat Portage; James McCracken, Rainy River and Lake Seul, Coutchuching; J. McIntyre, Eagle Lake, Fort Willlam; J. P. Donelly, Nepigon River, District, Port Arthur.

Mr. J. K. McDonald, of Toronto, has also been appointed a Fishery Overseer, without pay, for Lake Kagewong, Manitoulin Island.

In view of the extensive fishing interests of Lake Superior, Lake Huron and Georgian Bay a redistribution of the fishery districts was carried out under authority of an Order in Council dated 22nd November, 1890.

Under the old arrangement this large division was sub-divided into eight sections each under the supervision of one Fishery Overseer. But many of these sub-divisions being of very extensive limits and great importance it was found expedient to curtail the fishery districts and increase the number of officers thus admitting of a stricter and more satisfactory inspection.

This reorganization provides 14 subdivisions and officers instead of the 8 as formerly, while the expenditure will be increased less than $200.

With the exception of Mr. Samuel Fraser, of Midland, the services of the former officers have been retained in the reorganization and their districts reconstructed. The new officers, among whom Mr. Fraser's successor is included, are as follows:—

John Donaldson, Pt. Boucher; Charles Gauthier, Algoma Mills; Frank Prout, Bruce Mines; Robert Boyter, Gore Bay; Isaac Turner, Little Current; Owen McDonald, Mamainse Lake; Harry Wilson, Jackfish Bay.

QUEBEC.

Mr. Napoléon Latraverse, of Sorel, was, on the 1st July, 1890, appointed Fishery Overseer for the Sorel district, in consequence of the removal from the district of his predecessor, Mr. Félix Latraverse. Subsequently, Mr. Napoléon Latraverse resigned, and Mr. Narcisse Lavallée was, on the 4th November, 1890, appointed to the vacancy.

Mr. Treflé Marchessault, Fishery Overseer at Brome Lake, having resigned on 4th March, 1890, Mr. W. G. Greene, of Brome Lake, was, on the same date appointed to succeed him.

Owing to the death of Mr. Philip Vibert, which occurred in June, 1889, the Gaspé fishery district, formerly under his charge, was divided between Mr. George F. Annette, of Peninsula, Gaspé, and Henry Jones, of Little River West, who were appointed Fishery Overseers on the 1st May, 1890.

On the resignation of Mr. Pierre Bibeau, of St. François du Lac, Fishery Overseer for Lake St. Peter, fronting on the County of Yamaska, Mr. Denis Shooner was appointed in his place by Order in Council, 4th June. 1890.

Mr. Emiel Diesner, of Blanche, was, on 8th August, 1890, appointed a Fishery Overseer (without pay) for the inland waters of the Townships of Mulgrave and Lathbury, in the County of Ottawa.

Mr. Joseph Charbonneau, of St. Césaire, was appointed a Fishery Overseer for Yamaska River and tributaries on the 12th April, 1890.

NOVA SCOTIA.

In the County of Antigonish, Mr. Angus McDonald, Fishery Warden at Tracadie, died on the 1st October, 1890.

In the County of Cape Breton, Mr. James P. Burke, Fishery Overseer at Main-à-Dieu, was authorized to exchange positions with Mr. William Burke, of Mira Ferry, Lighthouse keeper, each assuming the other's duties.

In the County of Digby Mr. William Hanley, Fishery Overseer, was relieved of his duties in consequence of his ill-health, and replaced by Mr. James W. Cosseboom, of Rossway.

In the County of Guysboro', Mr. James Cook, Fishery Warden for Salmon River, died 1st May, 1890.

In Halifax County, Fishery Warden John McDonald, of Laurencetown, resigned on the 1st of February, 1890. On the 20th August, Mr. George Leslie, of Spry Bay, was appointed a fishery overseer, and on the 16th September his district and that of Overseer George Rawling's, of Musquodoboit Harbour, were re-arranged for convenience and efficiency.

In Inverness County, Mr. Neil McKay, Fishery Warden of S. W. Margaree River, died on 1st October, 1890.

Warden Murdoch McDougall, of Trout Brook, having left the limit his services were dispensed with.

The following changes took place in the County of Lunenburg :

The services of Fishery Wardens John Hutt, of Middle Gold River, George A. Nesbitt, of Petite River, and Eli Hebb, of Petite River, were dispensed with for inattention to duty, while Isaiah Besancon, of Middle River was relieved of his duties in consequence of advanced age.

In Pictou County a change in the system was effected by Order in Council of 22nd November, 1890, and the county divided into four fishery districts, each under the supervision of one overseer. The office of permanent local fishery warden, of which seventeen existed in the county, was abolished, and local guardians were substituted. These will be engaged from time to time under different overseers, as the requirements of the service demands and will be selected from the parties previously acting as fishery wardens, all of whom will probably be employed at certain periods of the year.

The fishery overseers for the county are as follows:—

Eastern Divison.—Allan McPhee, of Avondale.

Western Divison.—Robert Sutherland, of River John.

Central Division,—A. C. Pritchard, of New Glasgow.

Southern Division.—John D. McQueen, of Little Harbour.

In the County of Queen's, upon the resignation of Fishery Overseer S. T. N. Sellon, Mr. Thomas Day was appointed on 1st August, 1890, to the vacancy.

In Richmond County, Mr. John Proctor, Fishery Warden for River Inhabitants, died 1st October, 1890.

In the County of Victoria, Mr. Francis McGregor, Fishery Warden at Baddeck River, died 6th September, 1890.

And in Yarmouth County, Fishery Warden J. A. Hatfield, of Tusket, was, in January, promoted to the overseership of the county, rendered vacant by the resignation of Mr. Enos Gardner.

The services of Fishery Wardens William Kavanagh, of Tusket, and Eustace Nickerson, of Yarmouth, were on 7th June, 1890, dispensed with for neglect of duty, while the services of Wardens Wm. Thurston, of Chegogin River, and James Jeffreys, of Overton, being unnecessary, were dispensed with.

NEW BRUNSWICK.

In Charlotte County, Mr. Robert Johnston, Fishery Warden at Upper Falls, Magaguadavic River, died 21st June, 1890.

In the County of Gloucester, Mr. Joseph Poirier, Fishery Overseer for Bay Chaleurs District, resigned on 8th January, 1890. Mr. William Sisk, Fishery Warden at Pokeshaw, died, and was replaced by a special guardian, to be employed when required.

In Kent County the only change was the substitution of a special guardian in the place of Warden James L. Miller, of Kingston, who died in June, 1890.

A thorough reorganization of the staff of permanent officers in the County of Northumberland was effected by an Order in Council of 30th June, 1890. The county divided into five districts, each under the supervision of a Fishery Overseer; these are the only permanent officers in the county, it being proposed to engage special guardians at per diem wages, at such times and places as the requirements of the service demand.

The Fishery Overseers are as follows:—

Prudent Robichaud, Upper Neguac; J. G. Williston, Bay du Vin; Wm. Wyse, Chatham; Pat. Hogan, Newcastle; Thos. Parker, Derby.

PRINCE EDWARD ISLAND.

The only change in the County of Queen's was the dismissal of Warden John Loughrin of Orwell, who removed from his district, and the employment in his place of a special guardian, when his services were necessary.

In the County of Prince the overseership became vacant by the removal of Mr. Henry Clark from the nighbourhood of his district, and was filled by the promotion of Fishery Warden Patrick McBride, of Central Bedeque. Mr. Stanislaus P. Arseneault, of Egmont Bay, Fishery Warden, died 1st October, 1890.

The only changes occurring in the County of King's are: the death on the 1st April, 1890, of Warden Patrick McCullough, of Morel River, and the resignation in the same month of Warden John Conaghan, of Bay Fortune.

MANITOBA AND NORTH-WEST TERRITORIES.

In the above division the changes during the the year were: the appointment of Mr. John Foster, of Silton, on 1st July, to the vacant fishery overseership of the Qu'Appelle District, rendered so by the resignation of Overseer Oliver T. Stone, and the appointment as fishery overseers (without pay) of the following Government Agents: C. L. Gouin, Crown Timber Agent, Calgary; S. B. Lucas, Indian Agent, Bear's Hills; R. S. McKenzie, Indian Agent, Duck Lake; and Robert Gunn, Wm. Toole, W. B. McLellan, Michael Fee, Winnipeg; A. E. Johnston, Edmonton; J. R. Thompson, Calgary; R. S. Cook, Prince Albert; H. J. Montgomery, Battleford, forest rangers.

FISH BREEDING.

Owing to the death of Mr. Philip Vibert, which occurred in 1889, the position of officer in charge of the Gaspé Government Fish Hatchery became vacant, and Mr. Henry Davis, the assistant, was promoted to the charge of the establishment 1st May, 1890.

FISHING BOUNTIES.

The payments made for this service are under the authority of an Act passed in 1882, intituled:—

"An Act to encourage the development of the Sea Fisheries and the building of Fishing vessels."

This Act provides for the payment of a sum of $150,000 annually, under regulations to be made from time to time by the Governor in Council.

The total number of fishing bounty claims received for the year 1889 was 17,119, against 16,027 in 1888, an increase of 1,092 claims for the year 1889. Of this number 161 were rejected for non-compliance with the regulations, and 227 held in abeyance for investigation.

The total number of claims paid during the year 1889 was 17,078, which includes 347 claims for 1888 held over for investigation, an increase of 1,079 as compared with the year 1888.

The total amount of bounties paid on the basis of $1.50 per ton to vessels, and $3 per man to boat fishermen, was $158,526.54, an increase of $8,341.01.

This excess over 1888 is due to a large increase in the number of claims and to the payment of others for 1888 held in abeyance for further enquiry.

The number of vessels which received bounty in 1889 was 833, with a tonnage of 32,716 tons, an increase of 6 vessels and a tonnage of 1,076 tons over 1888.

The number of boats on which bounty was paid was 16,230, and the number of fishermen who received bounty was 31,525, an increase of 1,468 boats and 3,269 fishermen, as compared with the previous year.

The total number of fishermen in vessels and boats who received bounty during the year 1889 was 38,343, as against 34,887 in 1888.

For details of payments to vessels and boats, see Appendix No. 2.

The following statement in connection with fishing bounty payments since the year 1882 shows:—

1. The year when the bounty was established.

2. The number of claims paid each year.

3. The amount of bounty paid each year.

4. The proportion of bounty per head, or the basis of payments for each year.

5. The highest and lowest bounty paid per head to vessel and boat fishermen, and the general average per head.

6. The total cost of distribution since the bounty was established.

STATISTICS *re* FISHING BOUNTY.

1. Year when bounty was established, 1882.

2. Number of claims per year, as follows:—

In 1882	11,972,	representing	29,932	fishermen.
1883	13,086	do	33,399	do
1884	12,468	do	31,297	do
1885	14,124	do	33,564	do
1886	14,900	do	33,523	do
1887	15,416	do	34,387	do
1888	15,599	do	34,887	do
1889	17,078	do	38,343	do
Total	114,638	do	269,302	do

3. Amount of bounty paid per year, as follows:—

In 1882	$172,285 47	In 1886	$160,903 59
1883	130,344 85	1887	163,757 92
1884	155,718 98	1888	150,185 53
1885	161,539 39	1889	158,526 54
Total amount of bounty paid			$1,253,262 27

4. Proportion of bounty per head:—

In 1882 vessels were paid at the rate of $2 per ton, one-half being payable to the owner and the other half to the crew.

Boats were paid on the basis of $5 per man, one-fifth of which went to the owner and four-fifths to the men.

In 1883 the rate to vessels was $2 per ton, and paid as in 1882. The basis of payment to boats was $2.50 per man, one-fifth of which was paid to the owner and four-fifths to the men.

In 1884 vessels were $2 per ton, as in 1882 and 1883; and owners of boats were paid as follows:—

On boats from	14	feet keel to	18	feet keel	.....	$1 00
do	18	do	25	do	.....	1 50
do	25	do	upwards		.....	2 00

And boat fishermen $3 each.

In 1885 vessels were paid $2 per ton as in previous years. The rate to boats was the same as in 1884, with the admission of boats measuring 13 feet keel. Boat fishermen $3 each.

In 1886 and 1887 the rate to vessels and boats remained the same as in 1885.

In 1888 vessels were paid at the rate of $1.50 per ton, one-half to owner and one-half to crew, as formerly. Boats remained the same as in 1885-86-87, and boat fishermen $3 each.

In 1889 the rate to vessels remained the same as in 1888. Owners of boats were paid $1 per boat and boat fishermen $3 per man.

The total number of vessels paid is 6,695 (with a tonnage of 255,197 tons). and the number of crew 53,568.

Average number of men, per vessel 8.

The total number of boats paid is 107,943 and boat fishermen 215,734. Average number of men per boat, 2.

5. The highest bounty paid per head to vessel fishermen was $17.50, the lowest 83 cents.

The highest bounty paid per head to boat fishermen was $4, the lowest being $2.

The general average paid per head, $4.65.

6. The total cost of distribution from 1882 to 1889, inclusive, is $56,405.62, or an average of $7,050 per year.

MANITOBA FISHERIES.

For some time past the necessity for affording additional protection to the fisheries of Lakes Winnipeg and Manitoba has been a subject of much discussion.

It was contended and persistently represented by persons claiming to have a knowledge of the subject that as the Indians of Manitoba and the adjoining Territory are to a large extent dependent on fish for food, the depletion of the fisheries of Lakes Winnipeg and Manitoba would be a serious matter, and would entail upon the Federal Government the necessity of providing them with food. It was also urged that as the water of Lake Winnipeg is shallow, and consequently afforded facilities for fishing at every available point, beside which the practice prevailed of setting nets at the mouths of rivers and inlets, when the fish were seeking these for the purpose of spawning, the fishing as a consequence soon become exhausted.

On the other hand, it was contended by the persons now engaged in fishing in this Lake that apprehensions as to the depletion of its fisheries were unfounded; that relatively, considering its area, Lake Winnipeg was less fished than many waters in the Province of Ontario, where no injurious result had followed the fishing, and that no danger of depletion existed so long as the laws and regulations enacted for the protection of fish were strictly enforced, and applied with equal stringency to Indians and white men.

It was further alleged that the injury to the whitefish fishery was due to the wasteful practices said to be carried on by the Indians, and employés of the Hudson's Bay Company, in destroying, when swarming the breeding ground, large quantities of fish for the purpose of feeding dogs, rather than to the nets used by white men.

Believing in the great importance of this industry, and aware of the interests that would be effected by a prohibition or greater restriction on the fishery than now in force, the Minister of Marine and Fisheries, with the concurrence of that the Superintendent General of Indian Affairs, instructed Mr. Samuel Wilmot, the Superintendent of Fish Culture, to proceed to Manitoba in July of this year, and discreetly examine into the condition of the fisheries in Lake Winnipeg generally, but taking special care to fully inform himself on the points mentioned in the voluminous reports and correspondence touching the subject in the Department of Indian Affairs and Fisheries.

Mr. Wilmot's report will be found at Appendix No. 3 to this report.

The following questions were submitted to Mr. Wilmot by you, previous to his departure. Mr. Wilmot's answers are now given at the end of each question.

"1. Whether there really exists a depletion of whitefish in the waters of Lake Winnipeg?"

There is a gradual but steady depletion of the whitefish product of Lake Winnipeg going on, from the effects of the present system of fishing.

"2. If so, in what waters and what are the causes of it?"

This depletion is experienced more particularly at the mouths of the larger rivers, and in the lower part of the lake, particularly in the Little Saskatchewan River, and St. Martin's Lake, caused by overfishing at improper times, notably at the mouth and bay of the Little Saskatchewan River. This course, if permitted to continue, and be allowed in other parts of the lake where similar conditions prevail, must assuredly hasten greater depletion and eventual ruination of the whitefish industry of Lake Winnipeg.

"3. What are the remedies?"

The remedies are, to reasonably restrict the present wholesale fishing now carried on by the fishing companies, by judicious regulations and to wholly prevent these companies, and others, from fishing in certain well-known localities where the whitefish congregate in great numbers prior to the close-time and preparatory to their breeding operations.

"4. Is the present close-season proper or sufficiently long for the efficient protection of whitefish, and if not, what dates would you recommend?"

The present close season (5th October to 30th November) is well chosen and should answer all purposes, if duly enforced.

"5. Should the permission granted Indians of fishing indiscriminately during the close-season be continued."

It would be better for the general interests of the Lake Winnipeg fisheries that the Indians should not be permitted to fish indiscriminately during the close season. However, public policy, it appears, prevents this being carried out.

"6. Should the killing of whitefish during the close season, for the purpose of feeding dogs, be tolerated, and if so, under what circumstances?"

This is a necessary sequence to the former. The dog is the Indian's provider and his "beast of burthen," so to speak, and food is a necessity for him as well as for the Indians. If the Indian is permitted to take whitefish for his purposes during the close season, the dog cannot be excepted. It would be found almost impossible to procure accurate data to show the quantity of whitefish required for feeding dogs.

"7. Should any and what waters be reserved for the exclusive use of Indians?"

Yes. Where there are no white settlers actually domiciled and carrying on agricultural or other fairly legitimate callings, the Indians should have the exclusive right of fishing in their reserves, and in all other waters which it may be considered expedient to set apart for them. Fish traders or other persons should not be allowed to fish in these waters under any pretence whatever.

"8. Should net fishing be curtailed, and to what extent?"

Net fishing should be limited in the licenses granted to fishing companies, and all others who carry on commercial fishing—that is, as now known by the methods of freezing for export purposes. Each license for this description of fishing should state a maximum limit for the number of boats and length of net to be used; and "domestic licenses," that is the actual and *bona fide* settler or Indian, should also be limited to one boat, and a maximum length of net each.

"9. Is the present close season for sturgeon sufficiently long to ensure full protection to these fish?"

The close season for sturgeon should be from 15th of April to 15th of June, the license to state the locality in which fishing is to be permitted, the description, length and mesh of the net, and the character of boat to be used.

"10. Would it be desirable that Indians be supplied with large boats and longer nets, so as to enable them to fish in the deep parts of Lake Winnipeg, instead of on the shoals only, as at present?"

It would be undesirable that Indians should be supplied with large boats and longer nets, in order to fish in open or deeper parts of the lake. If the Indians desire to fish in waters outside their reserves, or other waters set apart for them, they place themselves in competition with other fishermen, and should therefore make their own provision for such outside fishing.

HERRING FISHING INDUSTRY.

It will be remembered there was submitted to Parliament at its last session, the report of the Special Commission appointed to enquire into "the most approved mode of catching, curing and packing herring. The first edition of this report fell far short of meeting the demand, and a second supply of 17,500 copies was printed, these have been distributed to the senators and members of Parliament representing constituencies interested in fishing, to boards of trade, merchants, fishermen, and others, where it was thought the report could be of service in bringing to the attention of those interested in the fishing industry the valuable information and suggestions which the report contained. Many satisfactory acknowledgments have been received, and it is earnestly hoped the result of the Commission's investigation will bring about an improved and profitable system of curing and packing herring in the Dominion. That this fishery has in the past been prosecuted in a very careless way, especially as regards curing and packing is generally admitted; the reason assigned therefor being that the low price the fish command in the home market does not warrant any expense in curing and packing that can be avoided, the fact being lost sight of, that this low price is largely due to the careless manner in which the herring are prepared for the home market or for export.

In the report of the Fishery Board for Scotland for 1888 it is stated the total quantity of cured herrings exported for that year amounted to the large number of 774,193 barrels, as against 865,911 barrels for 1887. An examination of the statistics shows that places out of Europe took 1,915 barrels more than in the former year, the great proportion of which were exported to America, chiefly in half barrels, quarter barrels, eighth barrels and sixteenth barrels. About 35,000 of the smallest size of these packages were shipped direct to America from Greenock, Leith and Aberdeen. These exports, however, form only a small portion of the Scottish herrings which went to that country, as a large quantity which had been exported to Hamburg was re-packed there into small kegs and re-shipped to America. Of the exports to Germany, Stettin alone took 292,290 barrels.

Of the winter herring fishery, it is stated the fluctuations are even greater than in the summer fishing; these may be largely attributable to the conditions of the weather, which have an important bearing on all the sea fisheries, but more particularly in the herring fishery. It has been observed for many years that during a long continuation of intense frost and snow, but with moderately calm weather in January and February, the principal months when the fishing is carried on, the herring shoals are found in the greatest abundance near the land, and therefore good takes are more readily captured than in open seasons, such as last year. As these herrings are not so rich in flavour as those taken in the summer (though of a larger size) very few are cured for exportation, nearly the whole of them being used in the country, either in a fresh state, lightly salted, or made into kippers or bloaters.

As regards hooping herring barrels, it is stated that up to three years ago it was only lawful to hoop such barrels with wooden hoops, but under a new regulation either wooden or iron hoops may now be used. The reason assigned for the change was the difficulty that frequently occurred in procuring wooden hoops, while an unlimited supply of iron was always available. The method of hooping partly with iron and partly with wood is, however, being generally adopted.

Regarding the size of barrels, it some times happens those of under size are used, prosecutions for this have been instituted and the herrings required to be repacked.

These extracts are quoted with a view of showing the enormous trade Scotland has secured in the export of herring, a considerable portion of which is stated to be with America. There is little doubt that this has been promoted by the admirable manner in which the herrings are cured, the care with which they are packed, and the convenient sized packages in which they are put up for export.

The conditions of the winter herring fishery in Canada which is principally carried on in the Bay of Fundy is in many respects similar to that of Scotland, and although the winter climate of Canada admits of a large trade in frozen herring for the purposes of bait, home consumption and export to a foreign market, the question suggests itself as to whether or not a large share of the United States' markets enjoyed by Scotland, might not with improved methods of curing and packing at other seasons of the year be secured to Canada.

Persons familar with the winter herring fishery of the Dominion will readily understand how difficult it would be to induce the fishermen to undertake during this season a system of curing and packing, when owing to favourable conditions of the weather they can generally realise remunerative prices within a few hours of the catch and without the trouble of salting or curing. In view of this aspect of the winter trade, together with the fact that fish cannot be properly salted in cold weather, it will readily be seen that so long as the demand for frozen fish exists little or nothing is likely to be done at this season of the year in curing and packing for home consumption or export.

Opinions of the Report.

The following opinions of the report of Messrs. Gunn and McLeod will doubtless be gratifying to these gentlemen:—

Sir Thomas Brady, Chairman of the Board of Fishery Inspection for Ireland, says:—

I have read this report with great satisfaction.

The Hon. Doctor Prouse, of St. John's, Newfoundland, writes:—

I am very much obliged for the books sent. I think they are admirable, especially the Delegates' report on the herring fishery. The pamphlet has been very much read and appreciated here; it is practical and exceedingly valuable.

Many of the Boards of Trade also refer in complimentary terms to the Herring Report.

The law now relating to the inspection, chap. 99 of the Revised Statutes, will be found at Appendix No. 7.

When transmitting the Commissioner's report to the several Boards of Trade, and persons interested in the fishing business, the following circular letter was sent:—

Ottawa, 15th April, 1890.

My Dear Sir,—I beg to forward, for the acceptance of your Board, a number of copies of the report of the delegates appointed to enquire into the herring industry

of Great Britain and Holland, with the object of improving this important industry in the Dominion.

I should feel obliged if your Board would favour me with its views on the present regulation, as contained in chap. 99 of the Revised Statutes of Canada, respecting the inspection of herring, and in regard to any modification of the existing inspection legislation, which, in the opinion of the Board, would tend to promote and improve the herring industry.

I would particularly refer the Board to that part of the report of the delegates, which deals with the inspection, classification and branding of herring; also the necessary improvements in regard to the barrels and small packages.

I would feel obliged for the views of your Board touching the necessity of further legislation upon this subject, or upon the question of improving the herring fishery generally.

Yours faithfully,
(Signed) CHARLES H. TUPPER.

A synopsis of the replies to this circular will be found of interest, as embodying the views of and suggestions from the representative bodies, and others to whom it was addressed, regarding the herring fishery.

The Halifax, Nova Scotia, Board of Trade, after conferring with a committee consisting of all the merchants in the city dealing in fish and fish oil, recommends:

That the Inspection Act of 1873, with amendments of 1876, with the following alterations and amendments, be made compulsory.

Each barrel not to contain more than 160 fish, the number to be stencilled on the head of the barrel.

Classification as follows:—

(*a.*) No. 1. Herring 11 inches and upwards.

(*b.*) No. 2. Herring under 11 and not less than 9.

(*c.*) No. 3. Herring under 9 inches.

That a general supervisor of inspectors of pickled fish be appointed for Nova Scotia, with headquarters at Halifax.

That inspection be compulsory, and all packages that will not pass inspection be condemned; that parties offering such condemned packages for sale be subject to a penalty of 25 cents for each package so condemned, and that the bottoms of all barrels be full bound, as recommended by the Government Commissioners to Holland.

That section 19, chap. 99, be amended ,to read after the words "to be inspected," in the second line as follows: excepting pickled fish, fish oils and empty fish barrels.

The St. John, New Brunswick, Board of Trade, at a meeting held 5th November, 1890, passed the following resolution:—

"That in the opinion of this Board, an Act for the compulsory inspection of pickled fish under competent responsible inspectors is much needed, and that the inspection of packages should be an essential part of any Inspection Bill."

The *Chambre du Commerce* of Montreal, in referring to the report of Messrs. Gunn and McLeod states:—

That for several years past the herring trade of the district of Montreal which should have augmented proportionally with the increased facilities of communication, has, on the contrary, greatly diminished, even evincing a ratrograde movement during the past two years.

The reasons for this decline are held to be in the neglect given to the proper curing of the fish, and to frauds too often restored to, in general course of business respecting the quantity and quality of the fish, as well as to the bad condition of the barrels and then unsuitableness to retain the fish in good condition. These frauds finally disgusted the trade, while the result has often been pecuniary loss to the victims.

The Act of the Legislature which repealed the clause relating to compulsory inspection, however imperfect it may have proved, was a retrograde piece of business, the result of which is to-day apparent. Much better amend the law by abolishing inspection in large cities, where experience has proved that it could only be enforced with great difficulty and at a heavy cost, and enforce it where it should have been, on the spot where the fish are pickled, but on consideration that the Inspectors should attend to their duty, and not be Inspectors in name only—simply collecting fees attached to the situation—as has too often been the case.

The Board is of the opinion that the Government's policy, which is one of protection, should extend to the fisheries as well as other industries in the country by compelling foreign fish competing with our own to submit to the same inspection laws as are applied to the products of Canadian industry.

The decrease in the fish trade of this district is occasioned by the Newfounland herring, as well as by the abolition of compulsory inspection, because purchasers being unable to discriminate between one kind of fish and the other reject both.

The Board desiring to afford its quota of assistance towards the resuscitation and improvement of a valuable and lucrative business, when pursued under the requisite conditions, and having taken communication of the report of the delegates, fully agrees with the recommendations as to an entire change of the present system of curing herring, and the adoption of that followed in Scotland, and in order to achieve this experts should be brought from Scotland, to instruct Canadian fishermen as to the system there pursued; also that barrels of a better class be provided and that the use of none but those regulated by law as suggested in the Commissioner's report be sanctioned.

The Board further specially recommends that the views of the Commissioners (page 74 of Report) as to inspection and brand, and those (at page 75) as to foreign herring of questionable quality being thrown on the Canadian market be adopted.

The Board concludes its valuable consideration of the roport by acknowledging the wisdom of the Government in despatching the delegates to study so important an industry as the herring fishery, one that has already enriched Holland, Scotland and Norway, and expresses regret that instructions were not given the Commissioners to visit Norway for the purpose of enquiring into the modes of curing cod for the various markets of the world, adding that if the herring industry had some importance it is nothing compared with the cod fishery.

Montreal Board of Trade deeming the subject under consideration of much importance, referred the Herring Report to a sub-committee of the Board. The result of this reference was a unanimous report, embodying, among others, the following opinions and suggestions:—

That the herring industry depends greatly upon the demand for export, and this requires to be carefully cultivated not only by the curers of herring, but by legislative enactment, protecting alike the interests of the fishermen and the consumer; also; that a rigid inspection by reliable and competent inspectors is absolutely essential, both as regards fish and package, with fixed standards to put the industry upon a sound and permanent basis, such inspection being compulsory at the place of cure; that the packages should be substantial and well made, where possible of hardwood, in no case of fir or pine, and containing at least 200 pounds of herring, exclusive of salt. It is also deemed most desirable that all imported herring shall have been inspected in the country from which they came by Government inspectors, and that communication be had with the Governments of those countries to secure this.

That portion of the Delegates' report which deals with "Remedial Measures" commends itself specially to the judgment of the committee. They would, however, recommend a slight alteration in Para: 2*a* of report, making it read as follows:—

That there should be a Dominion Board of Fisheries, having jurisdiction, under the Department, over all matters of detail pertaining to the fishing industry of the Dominion, and which should appoint superintendents and inspectors in the different Provinces. The cost of this Board, it is considered, should be borne by the Federal Government, and that of inspection by the curer; the inspection fees should, however, be made as light as possible. It was noted with interest what had been accomplished by the Governments of Europe to enhance the value of their respective Fisheries, and the Dominion Government congratulated upon its endeavour to profit by their experience.

The concluding paragraph of this report is as follows:—

"Your committee begs to express its satisfaction with the admirable report on the herring industry herein referred to. No point of consequence appears to have escaped the attention of the gentlemen who compiled it, and the whole forms a most instructing and interesting volume. It is therefore recommended that the Government cause that report (or, better still, a good digest thereof) to be extensively circulated among the herring fishermen, and all connected with the herring industry, with a view to disseminating the very useful information contained in it."

The Charlottetown Board of Trade under date 8th October, 1890, acknowledges the receipt of the Department's communication of 15th April and 1st August, 1890, referring to the herring industry and asking for the views of the Board, and states the matter had been referred to a committee of the Board. No report has yet been received by the Department.

The council of the Quebec Board of Trade, after a careful perusal of the Herring Report, expresses the opinion that the trade in fish could be turned to a very valuable account, and that of the immense schools that frequent our coasts spring and autumn but a small quantity is taken. The use of fish as a fertiliser, which it is believed is carried on in some districts, is strongly deprecated. In connection with

the protection of herring and caplin the Board submits the opinion of a firm fully cognizant of the necessity for this in the interest of the codfishery. It is follows:—

"We consider that the herring and caplin need protection, for the wholesale destruction of these for manure must result in the withdrawal from the coast of those fishes. It is notorious that fish become scarce when wastefully destroyed; and they will desert a coast when largely persecuted, and here we may mention that the wholesale destruction of impregnative herring spawn, also used for manure purposes, is probably as real a hindrance to the continual supply as the other practices complained of viz., the destruction of the herring."

The Board considers compulsory inspection a necessity, as by this means a merchantable value and character will be given to the fish, which without it is purely speculative, and sees no reason why an exception should be made in favour of Newfoundland.

It is thought packing herring in a fresh state in cans will not prove a success, in consequence of the large percentage of water which this fish contains. This is, however, overcome when it is subjected to salt, which does not remove the oil, but aids the fish in becoming hard and palatable.

In concluding the report, the Board desires to impress upon the Government the necessity for making the inspection of salted codfish (not dried) also compulsory.

The council of the Hamilton Board of Trade, in considering the Herring Report, adopted the following resolution:—

"That in the opinion of this Board of Trade it is desirable that thoroughly competent inspectors of fish should be appointed at convenient packing points in the Dominion, and an adaptation of the system adopted in Scotland for cleaning, curing, packing and branding should be arranged for, satisfactory to the purchasers and branders of fish. Until something of that kind is done, the brands here cannot command their fair value in our own or other outside markets where the packers are unknown."

The Toronto Board of Trade is of the opinion that the inspection of herrings should be made compulsory, most thorough, and a guarantee of quality and the branding reliable. The barrels should be of a uniform size, and sufficiently strong to stand very rough handling in transportation. The opinion of the dealers in herring in Toronto is, that in the past the inspection has been resorted to as a shelter by the unscrupulous packer; and when he has succeeded in getting his fish branded, has refused to guarantee them up to what the inspection should warrant the purchaser in expecting to have supplied him as No. 1 inspected fish.

The Winnipeg Board of Trade has no suggestions to submit. Neither has the New-Westminster Board.

The Victoria, B.C., Board of Trade, in view of the small local demand, has no recommendations upon the subject.

The reports of Fisheries Inspectors Bertram, Pratt, Hackett, Hockin and Kinney, are printed as an Appendix No. 7 to this report. It will be observed that, with the exception of Inspector Kinney, all are in favour of compulsory inspection.

Fishery Overseer Kerr, of Hamilton, Ont., deals principally with the question of freshwater herring, and states that of late years very little salting or curing of freshwater herring has been done for exportation, most of the herring caught in the great lakes being shipped to the United States in a fresh or frozen state, as they realize a larger price in this condition than when cured. Overseer Kerr favours the use of hardwood barrels and a system of inspection.

Mr. Guptill, of Grand Manan, N.B., who has been in the fish business for forty years, considers that the decrease in the herring trade is due to the inferior quality of herring which are put on the market early, and bought by merchants unacquainted with the difference in quality, as well as to the fact that several classes of herring are really unfit for consumption. To remedy this, he suggests a restriction being placed upon the several classes of herring at certain periods of the year. He further suggests that it would be advisable to grant to fishermen engaged in the smoked herring business a bounty equal to the duty they paid on fish shipped to the United States.

Messrs. Parker, Eakins & Co., commission merchants, of Yarmouth, N.S., state: "The very interesting and valuable report of Messrs. Dunn and McLeod has recently come under our notice. We have read it with peculiar interest, because of our entire sympathy with the purpose of the investigation and report—that of devising and applying some remedy for the present wasteful and irregular method of curing and packing herrings. In common with everybody in this country who have handled herrings, we have suffered from the evils so fully set forth in the report, and we should be very glad to have an inspection law passed which would remedy some, at least, of the drawbacks to the successful conduct of the business."

Mr. Commissioner Gunn makes some suggestions in connection with the inland fisheries that are practical. He recommends that a test be made, by packing at the proper time a number of half barrels of salmon-trout, whitefish and herring in the pine packages at present in use, and with the same kind of salt as that now used in curing these fish. Then put the same kinds of fish, but carefully excluding all dead fish which may be found in the nets, using pine barrels, and the fish well roosed with salt before packing, but not washed. Repeat the same experiment on the same lines, using hardwood barrels. Cedar barrels might also be similarly tested, and the whole stored for twelve or eighteen months, and then tested.

It would appear the importance of protective measures and the introduction of improvements in the mode of curing and packing herring is not attracting the attention of Canada only. I find in the report of the Newfoundland Fisheries Commission for the year 1889 the following observations under the head of "Investigation of Herring Fishery:"—

"Last year the Commission was unable to accomplish much in the investigation of our herring fishery. That must be the work of the future. It is unnecessary to dwell on the importance of this fishery, and the need of protective measures, as well as the introduction of improvements in the mode of cure and packing for foreign markets. The Commission are persuaded that by due care the value of our herring fishery may be vastly increased."

I have drawn very copiously from the several reports, resolutions and letters having reference to the subject under consideration, with which the Department has been favoured from all parts of the Dominion. The object in this has been two-fold.

First, that in these extracts those interested in the practical aspect of the herring question might have in convenient form for reference the various opinions and suggestions that have been made to the Department from competent sources; and:

Secondly, that having this information, they may be enabled from a study of the question other than locally, to afford material aid in connection with the remedial measures it will at one be admitted are a necessity, not alone to promote what ought to be a valuable trade to Canada, but to rescue it from the injurious and deplorable condition into which it has been permitted to drift.

In the consideration of the measures, having this object in view, the fact must not be lost sight of that the fish trade of Canada has many aspects, and is carried on under different phases to that of any other country.

I have already referred to the winter fishery on the Bay of Fundy, Atlantic coast, and shown, while it can be carried on, as at present, and remunerative prices, realised for the total catch in a frozen state, fishermen or traders are not likely to embark in any new phase of this business where the process of curing, packing, seeking a market and the payment of commissions is to be substituted for spot cash. This same reasoning will hold good, not alone with all fish on the sea-board that can be exported fresh to the United States during the summer season, but also with reference to a large percentage of the catch of our inland waters, which, owing to the proximity of the United States, finds its way to a ready and remunerative market just as soon as the fish are available for export. I refer to this aspect of the fish trade of the Dominion to show that the curing and packing of our catch is not likely to at an early period assume large proportions, in view of the circumstances referred to.

Another fact, leading to a similar conclusion, is, that many of the herring, with which our shores abound in the spring and summer season, while quite marketable for bait or home consumption, are not of that quality which would justify an expenditure for curing and packing, to bring them into competition with the best grades of Scotch herring, and on this point the testimony of the inspector for Cape Breton will be found of interest. That a change can, with profitable results, be made in the mode of curing and packing some of the herring taken in the summer and fall on the Atlantic coast is certain, with others of them I doubt if the quality of the fish would justify any very great increased expenditure in putting them up. That the smaller packages consisting of kegs and of half barrels, say containing 50 to 25 pounds, of which the United States takes in a year the enormous quantity of packages, might, if our best herring are used, be packed with profit there is little doubt, but to induce this new departure in the herring business, it will be necessary to offer some incentive, and to this end it is worth consideration whether a bonus might not be paid on all herrings packed in hardwood packages, which come up to a certain standard of inspection equal to the difference of cost between the barrel at present used and that of the better package, which it is suggested in the Commissioner's report, should be adopted.

It will readily be admitted after a perusal of the different reports from which I have quoted, that the opinion as to the necessity of an inspection law is practically unanimous, and without at present dealing with the details of an Inspection Act, I would suggest its being framed on the basis:

1st. That an inspection of all herring packed, or imported into Canada shall be compulsory.

2nd. That an Inspection Act should provide for at least three grades of fish.

3rd. That a prescribed size and quality for the different packages be adopted, and that each package shall contain a required weight of fish, irrespective of salt or brine.

4th. That all herring below grade No. 3, should be branded "Culls."

5th. That the inspectors should be appointed by the Federal Government.

6th. That the Act should provide for the payment by the packer or importer of a reasonable scale of fees.

While these are my views I am free to admit that in framing an Inspection Bill, it is clear much difference of opinion as to details among those interested will be found. I have, therefore, to suggest in view of the radical measures which a Bill should provide, that no legislation be promoted on this subject until next year, meanwhile the report of Messrs. Gunn and McLeod will have been more widely considered, the various opinions referred to in this report more thoroughly discussed, and legislation may then be so framed as to meet with general approval and support.

THE LOBSTER FISHING INDUSTRY.

This branch of our fishing industry has always been peculiarly difficult of regulation, because of the impracticability of maintaining a strict supervision over the operations of the numerous canning establishments situated on remote parts of the coast, and supplied by thousands of boats, operating many thousands of lobster traps. Over these operators only a partial supervision could be hoped for, without an army of officers distributed throughout the country at each factory. The facilities afforded for evading the law by immediately canning illegal lobsters are very great, and with the machinery at present provided and the funds at the disposal of the Department a thorough and perfect protection of this valuable fishery is not possible.

Numerous and diverse recommendations have been made for the improvement of the condition of this fishery. The Department accordingly caused to be referred to its chief officers throughout the districts where this fishing is prosecuted, a scheme for regulations in substitution for those now existing, upon which their opinions, after careful consultation with interested parties, were sought.

The proposals for consideration were as follows:—

1. There shall be a general close season for lobsters, extending from 15th July to 1st January, during which no lobsters shall be caught, canned, cured, preserved or had in possession, under penalty of $50 for each offence and $1 for each lobster so caught, &c., during the above named dates.

2. The Atlantic and Gulf coasts of Canada shall be divided into three districts as follows:—

(*a.*) District No. 1 to comprise that part of the Atlantic Ocean coast extending from Cape Canso and following the coast line of the Bay of Fundy to the United States boundary line.

(*b.*) District No. 2 to extend from Cape Canso to Cape Jourimain; thence in a straight line to Cape Traverse pier; thence round Cape Bear and East Point to and along the north shore of Prince Edward Island to North Point.

(*c.*) District No. 3 to comprise the Province of Quebec, including Magdalen Islands, that portion of the shore of New Brunswick extending from Cape Jourimain northward, and that of Prince Edward Island southward, from North Point to Cape Traverse.

3. (*a.*) The special close season for District No. 1 shall be from 2nd July to 28th May, and during such time it shall be unlawful to can, cure or preserve lobsters within the limits of the above named district.

(*b.*) For District No. 2 the close season shall be from 10th July to 5th June, with the same restrictions as above with regard to canning, &c.

(*c.*) And for District No. 3 the close season shall be from 17th July to 12th June, with same restrictions as to canning, &c.

4. During the legal season for canning, curing or preserving, as detailed in the above paragraphs, canners shall not be restricted as to any regulations with regard to the size of lobsters so canned, cured or preserved.

5. The possession, sale or use of "berried" lobsters shall be prohibited.

6. Neither shall any lobsters be caught under 9 *inches* in length, except as provided in paragraph 4.

On these propositions reports were received from the different officers, of which the following epitome is given:—

Mr. Edward Hackett, of Tignish, Inspector of Fisheries for the Province of Prince Edward Island, informs the Department that immediately upon receipt of the reference he communicated with a number of the leading lobster packers in the Province, with the object of obtaining their views on the points submitted for consideration. From these he received intimation that owing to the importance of the questions involved a meeting of the parties interested in the industry would be convened at Charlottetown, during which the propositions would be considered and the results made known. Mr. Hackett attended this meeting, and during a full discussion he found a feeling in favour of the existing regulations predominant.

He deals with the proposals as follows:—

1. General close season.

2. Division of the coasts into districts.

3. District close seasons.

4. Size limit.

1. The general close season, from 15th July to 1st January, he approves, because he considers it would be a great factor in the protection of the lobster, which is essentially a coast crustacean especially susceptible of over-fishing, while the proposed penalty would, in his opinion, be sufficient to prevent infractions of the regulation.

2. He does not consider climatic differences in the territory embraced sufficiently defined to warrant so much discrimination in the open against the close season, especially as the date of commencement of fishing is fixed.

Were it decided to prevent canning before 15th May he would not favour sectional divisions, as a uniform fishing season would suit all the Provinces. But the proposed divisional districts in the main would not be adapted to the requirements of the Province of Prince Edward Island.

With the exception of Egmont Bay, the influences surrounding the fishery on the coast of Prince Edward Island are nearly alike, and if no fishing were allowed until after 15th May they would be exactly alike, and would all be able to commence on that date. If any change be made he would suggest :

1. That (*b.*) District No. 2 should be from Cape Canso to Cape Jourimain, thence in a straight line to Sea Cow Head, in Prince Edward Island ; thence around Cape Bear and East Point to and along the north shore of Prince Edward Island to West Point.

2. From West Point to Sea Cow Head to be included in District No. 3 as proposed.

3. He is of opinion the district close seasons are entirely too shor t to admit of successful operations by packers and fishermen, a total closure for a term of years being preferable, the present season being as short as can be withstood without closing the factories.

4. The size limit he considers an essential factor to the preservation of the lobster fishery, and to abandon it would result in permanent injury to the industry.

Mr. Hackett concludes by giving it as his opinion that the present regulations, as they effect the industry in his Province, are well calculated to serve the end in view, for, while affording good protection to the lobster they also admit of a fairly successful prosecution of the industry.

Subsequent to this meeting, however, another was held at Charlottetown on the 30th December, 1890, which was largely attended by the canners and fishermen of the Province. The resolutions adopted on the proposals which differ from, or are not covered by the opinions above expressed, are as follows :—

That the present open season be continued; the restrictions against "berried" and undersized lobsters removed, and hatching operations commenced ; the members of the meeting agreeing to pledge themselves to extend to the Department all possible assistance in furnishing spawn and protecting such localities as may be selected for the purpose of artificial propagation.

Mr. J. R. Kinney, of Yarmouth, Inspector of Fisheries for District No. 3, Nova Scotia, is in favour of increasing the present staff of officers, to properly protect this branch of the fishery in his district.

The law prescribing a size limit is easy of infraction, and the are cases where the buyers keep the small fish separately in pounds or cars until after the visit of the officer, of whose inspections the packers have means of informing themselves. Previous to receipt of proposal he had intended to recommend :—A reduction of the size limit to 9 inches;

That the penalty for possession of undersized or " berried " lobsters be $1 for each undersized fish and $5 for each " berried " lobster ; and a general fine of $20 or $25;

Licensing of packing establishments at a nominal fee. Violation of regulations to be punished—1st offence, $100 fine ; 2nd offence, cancellation of license; although he says on broaching the question of licenses the packers were " horrified at the bare idea."

Failing the adoption of his recommendations, as above, he remarks on the proposals submitted for his opinion :

1. General close time entirely meets his views.

2. Division of districts—acceptable.

3. Divisional close seasons: Inasmuch as the canning season in his district ranges from sixty to eighty days, he thinks thirty-five days an unfair equivalent; and he recommends that if packers are permitted to use fish regardless of size limit, they should be allowed an open season of forty-five days, which, he says, would meet the views of well-disposed packers.

Mr. A. C. Bertram, of North Sydney, Inspector of Fisheries for the Island of Cape Breton, District No. 1 Nova Scotia, reports he called a meeting of lobster packers, &c., which was held at North Sydney. Though the notification was widespread and general the attendance was not very large. Several of the Cape Breton factories were, however, represented at a similar meeting held at Halifax; and the views of some absentees were given by letter.

On the reading of the proposals a warm discussion of the different points was entered into, and comparisons made of the lobster fishery of Cape Breton with that of other portions of the Maritime Provinces, resulting in a concensus of opinion against the shortening of the existing canning season as ruinous to the industry, giving the packers and fishermen less than twenty-five days active operations, when taking into consideration the drawbacks of the districts through storms, scarcity of bait, &c., Fishermen would not fit out for so short a season. A resolution was adopted unanimously to the above effect, and vigorously protesting against the proposed measure.

During the discussions it was stated by Messrs. Baker, Grant, Curry, Philips and McLeod that lobsters were more plentiful in their districts during the past season than any season during the last eleven years, and that the meat was firmer and the shell fuller at the closing days of the last season than at the beginning of the season in June.

The meeting was unanimous against a fixed date for commencing operations, as the drift ice sometimes delayed operations until second week in June, while during favourable seasons they could begin on 20th May.

Another resolution was adopted asking to commence lobster fishing when the spring opened each year and close on the 10th August.

The discussion of this resolution elicited that fall fishing in that district would be detrimental to the lobster fishery, it being stated by Mr. Philips, of Scattari, and Mr. McLeod, of North Shore, that during the great gales of December, 1890, thousands of lobsters were washed ashore, and that most of them were full of spawn, thus proving they spawn until the month of January.

The present legal gauge of 9½ inches was too large, 8 inches being considered sufficient. To secure large lobsters fishermen were apt to ignore the law regarding "berried" lobsters, and wash the spawn off.

A resolution was therefore adopted asking for 8 or 8½ inches legal gauge, and an increase in the penalty for violation.

In connection with the above, it was advanced that a smaller run of lobsters were found in bays shoal waters than were met with in deeper waters, fishermen often coming across 6-inch lobsters, containing spawn, in opposition to the theory that they do not spawn under 8 inches in length.

On the question of licensing fishing territories, the prevalent opinion seemed to favour leasing to each factory owner the territory now fished by him, the argument being that the lessees would preserve their holdings and would not employ fishermen who were known to be violators of the laws.

It was also considered that this would have the effect of reducing the number of small operators, who are not very particular as to the size or quality of the article canned for the market.

On the whole, Mr. Bertram approved of the proposals submitted for his remarks, except as regards the time to be allowed for canning in the Cape Breton division.

Mr. R. A. Chapman, Moncton, Inspector of Fisheries for District No. 2, of New Brunswick, reports that a meeting which nearly all the important lobsters packers in his district, or their representatives, attended, was held in the town of Moncton, and in effect resolved as follows:—

The proposed regulation, after deducting the time lost through stormy weather would reduce the fishing season so much that it would virtually close a business which forms a great factor in the exports of the district, and affords employment to a large number of people.

That under the existing regulations the catches for the past two years had greatly exceeded that for 1888, showing an increase in the lobsters under the protection at present afforded.

That the Department be asked to fix the canning season in the district from the 1st May to 15th July.

That the Department be asked to remove the size limit, and the packers and fishermen would pledge themselves not to take small or "berried" lobsters, but would do all in their power to preserve and increase the lobster fishery, to which end they would recommend that all lobster traps hereafter made have slats not less than 1¼ inch apart.

And that incubators be established at one or more points, to test the practicability of increasing the fish by artificial means.

Mr. J. H. Pratt, of St. Andrews, Inspector of Fisheries for district No. 1, of New Brunswick, replies: That having instituted enquiries among those in his district interested in the lobster fishery, his views are as follows:—

1. The general close time which extends the open season fifteen days does not meet with much favour, as it seems to be the prevalent opinion that the present legal season is sufficiently long on the already overfished grounds for a reasonable return for the labour and capital invested.

3. (*a*) Restricts canning, &c., only between 28th May and 2nd July, and because the low price paid for small lobsters by canners does not repay the labour and expense, it meets with approval, while larger lobsters bring a high price. There being no canneries in his division, although several exist in the adjoining State of Maine, and much of the material for canning is taken on the New Brunswick side of the line and conveyed over by traders, therefore this section will not at present affect his division.

4. A disregard of the size limit during canning season he thinks would not work much harm to the fishery on account, of the extremely short season for operations.

5. The protection of "berried" lobsters is a measure which cannot be too strictly enforced.

6. The general size limit should be raised to $10\frac{1}{2}$ inches, as the fishermen find fish of this size more profitable.

Mr. R. Hockin, of Pictou, Inspector of Fisheries for District No. 2, of Nova Scotia, called a meeting at Halifax of packers and other interested parties. The attendance represented about half of the packers in his district, and the several propositions were considered.

Sections 1 and 2 were not considered important; but section 3, proposing special district close seasons, was unanimously voted inexpedient, because it was held that the fishery did not show such evidence of decline under the existing regulations as to call for such drastic measures, it being the general opinion that a strict enforcement of the present restrictions would afford sufficient protection to the lobster fishery.

The effect of the proposition would be to shorten the canning season one-half, thus rendering it impossible to profitably run the business, and result in closing the canneries. The capital invested and outlay necessary to operating would be equally as great for a short season as for a long one; and it is advanced that the lack of supply through limited catch would lose the position to the product which it has obtained in the markets.

A resolution was unanimously adopted in effect as follows:—

The lobster fishery would be better preserved by a strict observance of the fishing season than by regulating the size limit.

They are of opinion not more than 5 per cent of lobsters under regulation size are returned to the water by the fishermen. If not bought by packers, they are used in some way.

That an attempted enforcement of the size limit bears hardly upon those packers under immediate supervision, while a strict enforcement could only be effected by large expense.

That districts where the season regulation has been observed have exhibited evidence of increase in the fishery, notwithstanding the size limit has not been well observed.

Mr. Hockin is averse to the proposal to shorten the present canning season in his district. He says there is evidence that during the latter part of May and first part of June the fish and fishery are at their best, while after the first week in June deterioration begins, both in quality and quantity.

He quotes statistics showing the annual catch since 1876 up to 1889, revealing a good average catch for 1889, much in excess of that of 1888, while the returns for 1890 will exceed those of 1889. The catches of 1885 and 1886 were the largest, but there were more factories in operation and more people fishing than since. He therefore holds that in his district the fishery is on the increase.

He believes the reduction of the size limit to 9 inches would meet with the sympathy as well as the interest of the packers.

Mr. Hockin concludes by recommending the resolution of the meeting to the consideration of the Department, and records his belief that the adoption of the proposed regulations is inexpedient and unnecessary in his division.

Mr. W. Wakeham, of Gaspé Basin, Inspector of Fisheries, for the Gulf division, reports that owing to the isolated and scattered position of many sections of his inspectorate it was impossible to get together at one time or place a large number of those interested in the lobster industry; but he took every opportunity of informing himself of the views of the canners and others he could reach. This division is included in District No. 3 of the proposals, a discussion of which elicited the following information :—

There being no export trade in live lobsters, and the product of the fishery being used only for canning and home consumption, he recommends the general close season to cover canning, curing, &c., and to be from 1st July to 15th May, although some of the canners would like to fish until 7th or 8th July.

He would recommend that lobsters be allowed to be taken at any time for domestic use, provided they were not under legal size, or "berried." The actual number would be very insignificant, and be consumed principally by tourists and the actual residents, who are but few.

The majority of canners approve the proposal to disregard size limit, as they find it impossible to comply with the law as it now stands in that respect. While anxious to get from fishermen as large lobsters as possible, rapid handling must necessarily pass lobsters verging on the legal size without actual measurement, and reliable canners estimate that 10 per cent. of undersized lobsters are so passed, though they try to comply with the law.

There is a difference of opinion as to the extent of shortening the canning season, which would be a fair equivalent for the withdrawal of the size limit. The proposal shortens it from fifty-three to thirty-six days. The proposed open season

would not suit his division, as the lobster fishing must begin with the opening of navigation. Therefore, any shortening must be at the end and not at the beginning of the season.

In 1887 lobster fishing began 30th May; in 1888, 25th May; in 1889, 23rd May; in 1890, 16th May.

Mr. Wakeham goes on to say that both as regards quality and quantity the fishery is at its best during the first ten days of June, or before the season would open if the proposal were adopted.

Mr. Wakeham is of opinion that there can be no question as to the correctness of the dates proposed by him—15th May to 1st July—if the restriction of size limit is removed, and any complaints which might afterwards arise would be only in the direction of seeking a few days longer in July say to 6th or 8th.

Messrs. Mitchell, Hitchens & Co., of Louisburg, dealers in canned and fresh fish, say that the propositions submitted fully meet with their views, with the exception that the time allowed for canning in their district is too short, and they recommend from 1st June to 15th July, which they consider would satisfy reasonable packers, while it would scarcely pay them to fit out for a shorter season. They strongly favour the change of size limit to 9 inches, as well as the protection of "berried" lobsters.

The 9½-inch standard has been ruinous to them, and the only packers who have done anything this year are those who succeeded in evading the law. The 9-inch limit is sufficient for all protective purposes.

Mr. J. M. Forrest, of Antigonish, Nova Scotia, having made a tour of the Atlantic coast of Halifax and Guysboro' Counties, with a view to ascertaining to what extent illegal lobster packing had been carried on, says that one of the principal difficulties is the fall packing, which, if not checked, will have a bad effect upon the fishery. This illicit packing, he says, is not carried on by the responsible business men in the factories, but by fishermen in huts and camps in the bush, who are actually packing thousands of cases in September, October and November, which the regular operators say greatly decreases their spring supply.

The strict enforcement of the 9½-inch limit would virtually close the factories in Nova Scotia and Prince Edward Island. There are more lobsters to be met with 9 inches in length than any other size, and he advocates a reduction in the legal limit to 9 inches.

He says the proprietors of existing factories think that the fall packing by irresponsible parties could be checked if they were to pay a license fee of $150 per annum for each factory, each having a registered trade mark, and all canned goods not bearing a trade-mark to be seized.

From the views expressed as above, it will be observed that with the exception of some local changes in the dates during which fishing is to be allowed for canning, and a differance of opinion as to the practical good of a size limit, there appears to be a strong tendency in favour of the existing regulations, and it is even held that a marked improvement in the fishery is noticeable in those districts where something like a reasonable enforcement of the law has been maintained.

There also appears to be unity in the opinion that the proposed shortening of the open season in the respective districts is in each case too great to form a fair equivalent for the proposed privilege of disregarding the size limit. This view of the matter is shared alike by the interested parties and the fishery officers.

The question regarding the length of lobsters allowed to be taken is one of great importance both as to its probable effect upon the fishery if disregarded, and upon the canning industry if it could be strictly enforced. And upon this point I find, as might be expected, the unaminous voice of the packers in favour of its abolition.

On the part of some of the officers there is a leaning of opinion in that direction, or at least towards a reduction of the existing standard; Inspector Hackett, of Prince Edward Island, however, advocating its retention as a necessary remedial measure.

It has been attempted to show that the existence of a smaller run of lobsters nearer shore having been found in large quantities as small as 8 inches in length, a large proportion of which were "berried" (and which were spawning as late as December), proved that lobsters matured and reproduced their species at an age and size hitherto unaccepted, and that this fact clearly combatted the necessity for a size limit beyond 8 or 8½ inches.

On this point will be found, at page 12 of the Annual Report of the Newfoundland Fisheries Commission for the year 1889," the following statement:

"In the course of his investigations Mr. Nielsen ascertained a most important fact in regard to the lobsters in our waters. He discovered that they have two different times of spawning. The larger run of lobsters spawn from the middle of July till the middle of August. The smaller and middle-size lobsters spawn in the latter part of October and the month of November. It is needless to point out that this discovery will have a very important bearing on the legislative enactments which may be found necessary for the protection of our valuable lobster fishery."

It would seem that wherever the protection of the lobster has engaged the attention of Governments and Commissions, the size limit has been considered expedient, and in some case all that was necessary.

In their "Report on the Crab and Lobster Fisheries of England and Wales, 1877," Messrs. Frank Buckland and S. Walpole recommended 8 inches, except in Sussex County, were they placed it at 7 inches. In Scotland they recommended 8 inches. Considering the difference in size of our lobsters, 8 inches in English waters would be equivalent to about 10½ in our waters.

Messrs. John A. Blake, Joseph Hayes and Thomas F. Brady, in a similar report for Ireland, recommended 9 inches "from the end of the tail to the tip of the beak."

The data available on the lobster fishery of Norway, as applicable to its conditions in Canada, is meagre. I find, however, in a paper by M. Friele on the fisheries of Norway, in 1877, a short reference to that fishery, in which it is said: "Anybody is allowed to take lobsters, except from 15th July to 15th October, which constitutes a close time, during which this fishery is prohibited." From this it would appear the fishery is free, except during the prohibited season.

And in a report for 1875, by Professor G. O. Sars, to the Department of the Interior, on investigations of salt water fisheries, it is observed that on the question

of framing laws for the better protection of this fishery be considers, the principle should be much the same as that which forms all similar protective measures—that is, an attempt to secure to its propagation as little interference as possible. If the enormous quantity of ova which an adult female lobster is capable of producing were allowed to develop into young fish the result would amply compensate for the annual catch. The natural supposition was that a decrease in the quantity of lobsters was due to the capture of adult females during the breeding season.

He believed that if the lobster was thoroughly protected during the months of July and August there would be some guarantee at least of the production of sufficient young ones to make up for the take of the fishery during the other months.

And in the United States, where improvident fishing almost exterminated the fishery, the size limit is placed at $10\frac{1}{2}$ inches, which regulation is unflinchingly enforced.

While in Newfoundland,as will be seen from the report above referred to, although the lobster packing industry is one of comparatively recent establishment, and its prosecution has not yet had sufficient time to work any lasting destruction to the fishery, yet in localities where it is vigorously pushed a rapid diminution in the abundance and size of the lobsters is noticeable.

This, coupled with the observance of a marked decline in the production of the Canadian lobster fishery, has induced the Newfoundland authorities to take early measures to provide against the destruction, by improvident fishing, of that valuable industry around the coasts of that Island, and at the same time to assist in keeping up the supply by means of artificial hatching on a large scale.

At page 16 it is stated : "The lobster being a local fish, in the strictest sense of the term, never migrates far from its deep-water haunts, but comes in annually to pretty nearly the same place on the shore. Hence, by over-fishing, or taking immature fish that have never spawned, any given locality may be speedily depleted and ruined as a lobster ground. The keeping up of the stock by artificial breeding and stringent protective measures are thus seen to be paramount importance, if the lobster fishery is to be saved from destruction."

Mr. Nielsen, the Superintendent of Fisheries, after a careful investigation, recommends that the close season in Fortune and Placentia Bays be fixed from 15th July till 20th September, and in Trinity and Conception Bays from 15th July to 15th September. He considers an earlier close time injurious to those engaged in the packing industry, and in the event of extending the artificial hatching to the various bays he thought the close season could be shortened a few days without injury to the fishery.

Returning to the size limit, Mr Nielsen places great importance on prohibiting the catch of immature lobsters, which had not exercised their functions of propagation. "Berried" lobsters were seldom found under 8 inches, and more frequently over than under 10 inches. As the size varies in different localities—even in the same bay, a fixed limit could not be applicable to the whole Island. He therefore recommended "that a law be passed prohibiting the taking or packing of lobsters in Fortune Bay and at Moody Island, Placentia Bay, below 9 inches in length; and that no lobsters in any other part of Placentia Bay, or in Trinity or Conception

Bays, be taken or packed below 10 inches in length, reckoned from the tip of the rostrum, or frontal projection, to the end of the telson, or tail, the hairs not included."

The Commission, while concurring generally in the views expressed by Mr Nielsen, considered it desirable that the present regulation size (10 inches) should be general, with the exception of Fortune Bay, where a 9 inch standard seemed necessary.

The question of limiting the lobster factories was touched upon by Mr Neilson, who, though he deprecated generally the idea of restricting competition in any industry, so long as a permanent injury to that industry was not threatened, was forced to the opinion that if the factories continued multiplying, as they had for the past few years, the fishery would not be equal to the drain upon it, and it might be necessary to obtain legislation to interfere in this direction to save the fishery.

The Commission proposed that each factory, under certain penalties be required to take out a *free* license, to which conditions be attached, the violation of which were punishable by penalties provided.

The different views as to the legal fishing season may be summarized as follows:—

Present Canadian open season—(Canning) :—

Atlantic coast, from Canso westward, including Bay Fundy coast to United States boundary, 1st January to 30th June. Elsewhere, 1st January to 14th July.

Recommended by Inspector Kinney.—Forty-five days fishing.

do do Bertram.—From about 15th or 20th May to 10th August.

do do Hackett.—Adherence to present regulations.

do do Chapman.—1st May to 15th July.

do do Pratt.—Immaterial; no canning in his district.

do do Hockin.—Adherence to present regulations.

do do Wakeham.—15th May to 1st July.

do Messrs. Mitchell, Hitchins & Co. (Cape Breton).—1st June to 15th July.

do Superintendent Nielsen (Newfoundland).—Placentia and Fortune Bays, 21st September to 14th July.

do Superintendent Nielsen (Newfoundland).—Trinity and Conception Bays, 15th September to 14th July.

Proposals submitted for opinions :—

District No. 1.—29th May to 1st July
do 2.—6th June to 9th July
do 3.—13th June to 16th July
} With a general close season from 15th July to 1st January.

It will be observed that in all the different propositions and regulations the Newfoundland law is the only one which countenances fall packing, and in the report of the Newfoundland Fisheries Commission it is stated that Messrs. Mitchell, Hitchins & Company, of Nova Scotia, had urged upon them the prohibition of fall

packing, as it did not pay, and the lobsters were unfit for food. The Commission reports, however, that Mr. Nielsen holds a different view. He states that after 20th September the meat is in good condition as an article of food, though the new shell formed after shedding is not perfectly filled out. If fall fishing were prohibited a great number of poor fishermen would be unable to earn a livelihood. When stormy weather prevents cod fishing, lobster fishing can be prosecuted in the arms and bays, enabling them to make some provision for the winter. He considers little injury can result from resuming fishing after 15th and 20th September, especially if the ova be collected and artificially hatched.

The Commission saw no reason for stopping fall fishing.

In view of the success which attended the experimental operations in the artificial hatching of lobsters, especially in Newfoundland, and being anxious to afford all possible assistance in the direction of keeping the supply equal to the tremendous drain upon this fishery, the necessary Parliament appropriation was procured for the establishment of a lobster hatchery, were the success, or otherwise, of hatching operations could be demonstrated.

The Superintendent of Fish Culture, under your direction, visited Newfoundland and made personal enquiries into the results of the work carried on there by Superintendent Nielsen. Mr. Wilmot's observations were such as satisfied him of the feasibility of the work and also its practicability in Canada.

A site has been selected on the Northumberland Strait, coast of Nova Scotia, the surroundings of which appear to peculiarly adapt it to the requirements of the operations, both as regards its fitness for the work and its convenient location for securing a supply of parent fish from which to gather the necessary eggs.

Arrangments for the construction and the equipment of a first-class lobster hatchery are rapidly progressing, and it is expected to have it in full working order for the approaching season.

Meanwhile, the following reference to the Report of the Newfoundland Commission may be made on this branch of the subject.

Great satisfaction was expressed at being able to announce the most successful experiments at Dildo Hatchery, which work was considered second in importance to cod propagation, and which is looked upon as a compensation for any disappointment experienced in connection with the propagation of cod. It is said :

"While carrying out a vigorous search for cod ova, Mr. Nielsen decided on on commencing the hatching of lobsters. Spawn was at first obtained at a small lobster factory in Green's Harbour, Trinity Bay. The first supply was brought to the hatchery on the 19th July and these were hatched by the 24th July. The work went steadily on and a number were hatched almost every day. The factories in Green's Harbour being insufficient to supply the number of eggs that could be handled, additional supplies of spawn were brought from Mr. Otis's factory in Long Harbour, Placentia Bay, also from Mr. Coffin's factory. During the month of August spawning lobsters became scarce, and after the beginning of September none but green eggs, which would require a couple of months to hatch, could be obtained. The lobsters hatched were healthy and lively; and as they were sufficiently matured to take care

of themselves, they were set free in various places around the head of Trinity Bay. Without going into details, it will be sufficient to state that four millions and thirty nine thousand lobster eggs were hatched during the season, and planted in the waters of the bay, as described. This gratifying measure of success was obtained, notwithstanding serious difficulties which had to be encountered. The apparatus of the hatchery, having been adapted for cod ova, was not well fitted for lobster hatching, so that not nearly as many eggs could be treated as in a proper lobster apparatus. Further, many bad and injured eggs were brought to the hatchery, owing to the rough treatment they often received from the lobster catchers while carrying them to the factories. No better source of supply, however, was available.

"The successful hatching of lobsters awakened much interest, and a large number of visitors were attracted to the hatchery to see the young fry vigorously disporting themselves in the hatchery boxes.

"The sight had a marked effect in removing the prejudices against the hatchery which many persons entertained. and in strengthening their belief in the possibility of hatching cod, which had been hitherto doubted. A few are still unable to divest themselves of the idea that the artificial propagation of fish is an impious interference with the order of Providence. In every age of the world, all new ideas and innovations on established usages have been regarded at first with similar distrust and suspicions, and have had a like opposition to overcome."

The Commission was impressed with the importance of the initiation of successful lobster hatching as they considered a means was thus provided which, if properly operated, would prove a safeguard to the lobster fishery of the Island against the injury and ruin which had overtaken that industry in other countries. They believed that by this means the stock may not only be maintained, but greatly increased, while at the same time it rendered possible the introduction of this valuable crustacean into waters where at present they are not found.

They point out that the operations have been doubly valuable, because the eggs which were hatched by Mr. Nielsen and those which are proposed to be used by him are taken from the canneries, where hitherto they have gone to waste, thus neutralizing, to a great extent, the damage done in former years to the fishery by the destruction of "berried" lobsters, and they consider it would be difficult to over-estimate the value of the enterprise to the fishing interest of the colony.

In connection with this industry, the authorities of Newfoundland have been copiously referred to in the foregoing pages in view of the fact that it is a matter of considerable importance to the trade that the protective legislation of Canada and Newfoundland should be as much as possible assimilated.

At Appendix No. 8 will be found answers from Fishery Officers to a series of questions submitted by the Department affecting this fishery.

The information elicited would appear to largely justify the existing regulations, and with their rigid enforcement—it being a noticeable fact that some of the canners are already bearing testimony to the efficacy of these regulations—the future of the lobster fishery looking to its increased productiveness is assured.

To remove all restrictions as to size, or in the case of lobsters taken for the purpose of canning, as has been suggested, leaving this regulation in operation as regards lobsters taken for export fresh only, is, in my opinion, most objectionable.

The proposed reduction of the legal size to nine inches, together with the operations of the hatchery now in course of construction, and the establishment of a system of floating incubators, so successfully adopted in Newfoundland, should remove all opposition to the existing regulations.

THE FISHERIES PROTECTION SERVICE.

It is gratifying to again be able to report that the operations of this service during the season have been of a very satisfactory character.

The vessels forming the fleet were the Government steamers "Acadia," "La Canadienne," "Stanley," and the chartered steam yacht "Dream," together with the Government schooner "Vigilant," and the chartered schooners "Connaught" and "Critic." For a short period in the fall the Customs steam yacht "Argus," stationed at Halifax, was also employed.

The fleet was again under the immediate direction of Lieut. Andrew R. Gordon, R.N., on board the SS. "Acadia."

This officer's report, which forms Part II of this report, deals minutely with the details of the season's operations, and makes some suggestions as to the mackerel and lobster fisheries of much importance. His views will be studied with not a little interest by those immediately interested in these fisheries.

The cost of the service for the fiscal year 1889–90 was $64,434.66, and for the calendar year ending 31st December, 1890, $70,707.50, as against $69,693.82 for the fiscal year 1888–89, and $69,045.89 for the calendar year ended 31st December, 1889.

In this expenditure is, however, included that of the protection steam yacht "Cruiser," amounting to $4,509.25, one-half of which ($2,254.63) is paid, by arrangement, by the Customs Department. This vessel was commissioned on 15th September, under command of Captain Edward Dunn, for the protection of the fisheries of the Georgian Bay and Lake Huron.

The "Cruiser" remained in commission until the 9th December, and rendered most satisfactory service, especially during the month of November, which is the close time for salmon-trout and whitefish.

A vigorous protection of the fisheries of these extensive waters has become a pressing necessity. That a larger and more powerful steamer would accomplish still better work there is now no doubt. The question of providing such a vessel is engaging attention.

The only seizure effected during the past season was the United States' fishing schooner "Davy Crockett," Nelson Cantello, Master, which vessel was seized at Souris, P.E.I., on the 25th September, for fishing from dories within the three-mile limit. The "Davy Crockett" was taken to Charlottetown and proceedings instituted in the Admiralty Court. Pending the result of these proceedings, this vessel was released under a bond for $2,500, this having been furnished to the satisfaction of the court.

The United States' fishing schooner "Nellie Irving" was detained by the Collector at Souris for an alleged infraction of the Customs regultions, but was subsequently released.

The period of two years for which the *modus vivendi* of the Treaty of Washington Act of 1888, provided for the issue of licenses to United States fishing vessels, having expired on the 14th of February, 1890, Parliament passed an Act intitled "An Act respecting fishing vessels of the United States of America," under which the system of licenses to foreign fishing vessels was authorized, the conditions being that upon the payment of $1.50 per ton such vessels were permitted to enter Canadian ports for the purchase of bait, ice, seines, lines, and all other supplies and outfits, and the transmission of catch and shipping of crews.

Although an arrangement had existed with the Government of Newfoundland that the licenses of fishing vessels issued under the *modus vivendi* of the Treaty of Washington by Canada and Newfoundland should be mutually recognized, this arrangement was not continued on the part of Newfoundland, owing, it is alleged, to the fact that United States' fishing vessels had been found disposing of the bait they had obtained, presumably for fishing on the Banks, to French fishermen, thus rendering largely futile the operations of the Newfoundland Bait Act.

That United States' fishing vessels to a large extent took advantage of the renewed privilege is shown by the following figures:—

	Vessels.	Tonnage.	Amount Collected.
1888	36	2,554	$ 3,831 00
1889	78	6,393	9,589 50
1890	119	9,641	14,461 50

The list of fishing vessels to which licenses were issued during 1890 is printed in Part II of this report.

On the part of owners and masters, the advantages these licenses were to the vessels obtaining them was freely admitted; and it is also very satisfactory to be able to state that in the cases of vessels which did not take licenses a generally willing compliance with their lessened privileges was observed, the result of which has been to establish a continuance of the amicable relations between the officers of the protection fleet and the masters of fishing vessels, to which I was enabled to refer in my last year's report.

FISHERY INTELLIGENCE BUREAU.

This service, which was inaugurated in a very small way in the season of 1889, was continued during the season of 1890 on a somewhat extended scale, at a cost of $1,330.04. Stations were established at forty-four different points on the coast, and the results of the daily reports communicated to the head office at Halifax, where they were collated and transmitted by telegraph to the principal fishing stations and business centres in the Maritime Provinces.

The service has been very generally appreciated by the masters of fishing vessels and those interested in the fishing business.

Some suggestions are made in Lieutenant Gordon's report, looking to an increase in its usefulness, which are worthy of attention, and would not very materially

increase the cost. The procuring of fresh bait is so absolutely necessary to the successful prosecution of the deep-sea fishery that any information which facilitates this being done is a boon to fishermen, the full value of which can only be estimated by the results of active work on the part of a vessel and crew on the one hand, and enforced idleness on the other.

Attention is directed to the question of pilot dues exacted from fishing vessels, referred to in Leut. Gordon's Report. There can be no doubt but that the intention has been to relieve vessels of this class of all local dues from which they could reasonably claim exemption, and that pilotage dues are one of the chief of these will not be questioned.

The principle being admitted, the Pilotage Regulations should be so amended as to exempt all vessels absolutely engaged in fishing up to 250 tons that being the limit to which the Pilotage Act 59 Vic. chap. 86, authorizes local authorities to exempt fishing vessels from the payment of these dues.

Appended is a statement of the cost of this service for the calendar year of 1890.

STATEMENT of Expenditure in connection with Fisheries Protection Service for the Year ended 31st December, 1890.

Service.	Amount.	Total.
Str. "Acadia."	$ cts.	$ cts.
Wages of officers and men	7,495 76	
Provisions	2,274 19	
Fuel	1,385 74	
Repairs	2,497 79	
Miscellaneous expenditure	3,207 33	
		16,860 81
Str. "La Canadienne."		
Wages of officers and men	6,628 54	
Provisions	2,083 07	
Fuel	923 31	
Repairs	2,520 39	
Miscellaneous expenditure	2,846 60	
		15,001 91
Str. "Stanley."		
Wages of officers and men	4,944 97	
Provisions	2,517 22	
Fuel	2,641 18	
Miscellaneous expenditure	1,597 44	
		11,700 81
Str. "Cruiser."		
Wages of officers and men	1,651 13	
Provisions	303 12	
Fuel	429 49	
Repairs	1,612 87	
Miscellaneous expenditure	512 64	
		4,509 25
Str. "Dream."		
Wages of officers and men	2,812 82	
Provisions	822 14	
Fuel	637 09	
Charter, 11 months	3,300 00	
Miscellaneous expenditure	306 33	
		7,878 38

STATEMENT of Expenditure in connection with Fisheries Protection Service for the Year ended 31st December, 1890—*Continued.*

Service.	Amount.	Total.
Sch. "Vigilant."	$ cts.	$ cts.
Wages of officers and men	3,033 07	
Provisions	1,012 07	
Repairs	148 88	
Miscellaneous expenditure	889 81	
		5,083 83
Sch. "Critic."		
Wages of officers and men	686 48	
Provisions	237 68	
Charter	520 00	
Miscellaneous expenditure	176 23	
		1,620 39
Sch. "Connaught."		
Wages of officers and men	1,673 63	
Provisions	741 53	
Charter	1,200 00	
Miscellaneous expenditure	392 13	
		4,007 29
Customs steam yacht "Argus," while employed on special services		158 75
General Account, miscellaneous expenditure		2,973 54
Fisheries Intelligence Bureau		912 54
Total		70,707 50

RECAPITULATION.

Str. "Acadia"	16,860 81	
do "La Canadienne"	15,001 91	
do "Stanley"	11,700 81	
do "Cruiser"	4,509 25	
do "Dream"	7,878 38	
Sch. "Vigilant"	5,083 83	
do "Critic"	1,620 39	
do "Connaught"	4,007 29	
Str. "Argus," special	158 75	
General Account	2,973 54	
Fisheries Intelligence Bureau	912 54	
Total		70,707 50
This amount will be reduced in the sum of $2,254.63, being the share of "Cruiser" expenses paid by Customs Department		2,254 63
Net expenditure, Fisheries Protection Service		68,452 87

POUND-NETS.

The question of the effect upon the several ffsheries in which nets of this character are used, as compared with those commonly known as gill-nets, has been a subject of much discussion on the part of those actively engaged in fishing by means of one or the other system.

Before proceeding to deal with this aspect of the question, I desire to submit a statement of the Department's action with reference to another phase of this industry, the importance of which is scarcely less than that above referred to.

It has long been a subject of complaint on the part of Canadian fishermen operating in the waters of Lakes Huron and Erie that while restrictions were placed upon the number of pound-nets for which licenses were granted in Canadian waters, as well as regards the periods of fishing, that on the United States' shore of these lakes the fishing was carried on without any restriction whatever, and that in consequence the operations of Canadian fishermen were prosecuted at a great disadvantage. Recognizing the force of this contention, but at the same time being fully aware of the baneful effect upon the fishing, which must follow, if the demands of our fishermen were conceded, it was deemed expedient to address the United States' Government on this subject, the initiatory step being taken in your report to the Privy Council of the 25th of June last, and upon which a minute was approved by His Excellency on the 5th of July, in the following terms :—

"On a report dated 25th June, 1890, from the Minister of Marine and Fisheries, stating that he has received urgent representations in the interests of the pound-net fishermen of Lake Erie, fronting on the County of Essex, asking that they be authorized to use double-headed pound-nets for fishing, instead of being limited, as at present, to the single pounds licensed by the Fisheries Department—their object being to increase the catching power of this fishing apparatus.

"The Minister observes that the question of pound-net fishing is one which has engaged the attention of the Department of Fisheries for years, and has always been found a difficult one to deal with, especially in waters adjacent to those of the United States, where fishing is carried on in close proximity to that in Canadian waters.

"Pound-nets are prohibited by the Fisheries Act (chapter 95, Revised Statutes), except under special licenses and subject to certain conditions. The policy of the Fisheries Department has been to curtail this mode of fishing within as reasonable limits as possible and minimize its destructiveness.

"The fact that these nets are allowed at all, though under a heavy license fee, is largely due to the strong representations on behalf of Canadian fishermen of the unequal position in which they were placed, both as regards the times and modes of fishing, as compared with the unrestricted fishing carried on in United States waters within their sight, and in which fishermen are permitted to take fish at all times and by all means.

"To protect the fishery, the operations of Canadian pound-net fishing on Lake Erie have been curtailed to the extent of discriminating as much as possible against the use of double-headed pounds.

"The Minister further observes that the importance of the interest involved and the difficulty which exists to maintain a proper observance of the different close seasons for fish by reason of the sedentary nature of pound-nets, which of necessity catch all kinds of fish at all times, render it highly inexpedient to relax the precautions of the Department of Fisheries towards the economical management and administration of the fishing industry; especially in view of the fact that observance of the close seasons and other Fishery Regulations is exacted from all other fishermen.

"The Minister regrets that there is an absence of similar legislation in this and other directions for the protection and preservation of the fisheries in the waters of

the neighbouring States of Michigan and Ohio, and before advising that the policy, as authorized, regarding pound-net fishing, be abandoned, he is of opinion that it would be well to seek co-operation on the part of the authorities of the States of Michigan and Ohio, and he therefore recommends that a copy of his report be transmitted to the Right Honourable the Principal Secretary of State for the Colonies, for submission to Her Majesty's Government, with a request that it be brought to the notice of the State Governments of Michigan and Ohio, as well as of the General Government of the United States.

"The Committee concurring in the above, advise that Your Excellency be moved to forward a copy of this Minute to the Right Honourable the Secretary of State for the Colonies, with a request that it be brought to the notice of the United States' Government and of the Governments of the States of Michigan and Ohio, and with the expression of a hope that the whole question of the protection of the fisheries in inland waters contiguous to the United States and Canada may be considered, with a view to some international action, having for its object the adoption of uniform regulations restricting the catching of fish at times and by means which tend to exhaust these fisheries."

No understanding has yet been arrived at with the United States' authorities on this subject.

To return to the question of pound-net and gill-net fishing and the effect of the respective modes on the fishing industry at large, there will be found in Appendix No. 6 to this report a memorandum on pound-net fishing, giving the answers by fishery officers and others to a series of questions through which it was desired to elicit the views of practical fishermen and others engaged in the fishing business.

As is the result in most enquiries of a character similar to that under consideration, there is a wide divergence of opinion on the part of those answering the questions. Mr. Charles Wilmot, the officer in charge of the fish hatchery at Newcastle, Ontario, and who has for some years past conducted the Department's operations at Georgian Bay in procuring salmon trout and whitefish spawn, reviews at length the answers given to the several questions, and in an interesting report supplements the result of his own observations on the matter at issue. Mr. Wilmot expresses an emphatic preference for fishing by means of pound-nets to that with gill-nets, and supports his conclusions and arguments with data which are certainly entitled to consideration. He has, however, dealt with two aspects of the question, which must certainly enter largely into its consideration before a satisfactory conclusion can be reached. The first is that to adopt a system of pound-net fishing to the exclusion of gill-nets would throw the business of fishing into the hands of extensive operators and capitalists, and as a result paralyze that branch of the industry carried on by means of gill-nets, and in which the aggregate capital invested amounts to a very large sum, beside throwing out of employment a considerable number of our population who now fish for a living by means of gill-nets.

The cost of a well-equipped pound-net with boat, new, ready to set is $1,000, while a fisherman can equip himself with a boat and a gang of gill-nets for $500. The cost of gill-nets can of course be illimitably extended by an increase of their number, but the point I wish to make is, that there are many men

engaged in gill-net fishing in a reasonable way who could not provide themselves with a pound-net outfit.

The second point is the absence of the consideration as to the locality in which the different modes of fishing can be carried on.

That the system of gill-nets is an advantage over that of pound-nets, in being migratory, thus enabling the fishermen to follow the fish to their haunts at different periods of the year, is admitted; and that this is not an unreasonable advantage, when legitimately pursued, will, I think, also be conceded when considering the operations of the Fisheries Intelligence Bureau on the Atlantic coast, which are undertaken solely for the purpose of informing the fishermen as to the presence of fish in the waters of a particular part of the coast. The fact should not be lost sight of that there are many long stretches of water bordering the shores of our inland waters where pound-nets cannot be used, owing to the nature of the bottom, for it is well understood that a mud or soft bottom is necessary in which to drive stakes to fasten the pound-net, and it will therefore be seen that were gill-nets prohibited it would mean the prohibition of fishing altogether in parts of our inland waters.

While the system of pound-net fishing has been sanctioned by the Department to a reasonable degree, not a little difficulty has been experienced in restraining the operators of this system from excessive fishing by what is termed "double-headed pounds."

The decided advantage the pound-net system possesses over that of gill-nets, in the better condition in which the fish so taken are available for market, is so fully dealt with by Mr. Wilmot that reference thereto seems unnecessary, beyond stating that I, on this point, very generally concur with Mr. Wilmot's statements.

Sufficient evidence has, I think, not yet been adduced to show that the Department would be justified in recommending the adoption of extreme measures looking to the abrogation of either of the systems of fishing named. I would suggest, therefore, a continuance of the pound-net system under such restrictions as may from time to time be considered necessary, but that "double-headed pounds" should not be sanctioned, and that the mesh of the nets should be fixed at a size sufficiently large to prevent the possibility of small or immature fish being gilled. A regulation should also be enacted fixing the distance apart at which these nets must be placed.

With reference to gill-net fishing, the length of the net which each boat under present regulations is entitled to fish is 6,000 yards. This, in my opinion, should be curtailed rather than advance the fee of $5 per boat now paid for the privilege of fishing during the whole season with nearly 3½ miles of net. It will, I think, be conceded that this charge is wholly inadequate to the privilege granted. The boats licensed should take out a fishing permit, which I recommend should be furnished free of charge, and should have painted or put on in some other distinguishing way, in a conspicuous part of the sail, the official number of such permit, and should also have this number painted on the bow. The nets used by a boat should have a tag attached thereto bearing this number, and having the owner's name legibly written or stamped thereon. I would further recommend that steps be taken to ascertain, so far as is possible, the principal spawning grounds to which the fish repair in the fall of the year to deposit their ova, and that no fishing be permitted within a mile of these localities.

The adoption of the regulations suggested, the rigid observance of close seasons together with that of the size of the mesh, will, aided by the Department's fish breeding operations, go very far towards bringing within proper control and the maintaining the supply to an industry the importance of which is scarcely estimable.

I confidently look forward to the day when the "poor fishermen," having realized the benefit to the fishery in which he toils, of wholesome regulations, unsparingly enforced, will look upon the Fisheries Department as his best friend.

OYSTERS.

The state of the oyster fishery in the Maritime Provinces of the Dominion has already attracted not a little attention on the part of those interested in its preservation.

A commendable effort has been made by a few persons towards the introduction of oyster culture by private enterprise, and the effort has, the Department is informed, been reasonably successful. It has, however, become apparent that if this fishery is to be saved from extinction radical regulations, looking to a less destructive mode of carrying it on, are imperative, as already some of the beds in the Provinces of New Brunswick and Prince Edward Island, which not many years ago were conspicuous for their oyster production, have either become wholly exhausted or so nearly so as to render fishery operations no longer profitable. Notable amongst these are the once prolific beds of the harbour of Shediac, N.B., and although these beds gave unmistakeable signs of exhaustion many years before its accomplishment, an effort made by the Minister of Marine and Fisheries in 1875, looking to their preservation and resuscitation, met with so much opposition in the district that it was abandoned.

The existing reasons for the depleted state of the oyster fishery are so fully referred to in my annual report of last year that any repetition of the facts appears uncalled for.

In 1885 the close season for oyster was extended from the 1st to the 15th of September, and the season is now fixed, by regulation adopted on the 6th of August, 1885, at from the 1st day of June to the 15th day of September in each year. This is the only regulation in existence bearing upon the oyster fishery in the Dominion. The fishery has been relentlessly pursued, and may yet be, till the new regulations take effect, by any persons who see fit to rake oysters at any place and in any manner they please, and wholly regardless of the size of oysters taken or the injury to existing beds, by leaving large numbers of small oysters and shells on the ice to, in the spring of the year, drop upon and destroy the beds.

With a full sense of the importance of this question, an exhaustive report was, in March last, made to His Excellency in Council, in the following terms:—

DEPARTMENT OF FISHERIES,
OTTAWA, March, 1890.

To His Excellency the Governor General in Council.

Reverting to the enquiry made by the Commission appointed in 1887 to investigate the condition of the oyster fishery of Canada, the undersigned has the honour

to call attention to the report of that Commission, and to the necessity for the adoption of measures to ensure the preservation and improvement of this important Canadian industry.

The report of the Commissioners shows the great extent of area suitable for oyster culture in the Dominion, and they say that they found many of the beds extinct, while others were rapidly becoming exhausted, from want of proper cultivation and protection, from indiscriminate and improvident raking.

The Commissioners concluded their report with the following suggestions: —

They would respectfully recommend to your Honour's consideration that one general law or regulation should cover the whole of the Canadian Atlantic seaboard, with the following provisions, namely: —

I. That existing oyster beds be reserved to the public, and that their limits be officially defined;

II. That mud-digging be prohibited within sixty yards of any officially recognized workable live oyster bed;

And that suitable portions of bays, creeks, estuaries or harbours be considered closed for oyster fishing, and said closed portions be laid off for the digging of shell manure;

III. That bays of considerable extent, in which are many oyster beds, be marked off in two or more divisions, and that the divisions be fished only in alternate years;

IV. That, for the present, the existing close season be retained, namely, from 1st June to 15th September in each year, both days inclusive;

V. That under penalty of forfeiture of boat and appurtenances, no fisherman shall bring ashore (excepting for authorized purposes), any "round" oyster that does not measure fully 2 inches in diameter of shell, nor any long (oblong) oyster that does not measure fully 3 inches of outer shell, and that possession of such under-sized oysters by any person shall be punished by fine;

VI. That all winter fishing be prohibited for oysters (Commissioner Ogden dissenting);

VII. Temporary or permanent proclamation to close localities where the supply is so nearly exhausted as to warrant closure;

VIII. That under section 21, sub-section 4, of the Fisheries Acts a liberal inducement be offered, under a system of leases to persons who will undertake, under stringent regulations, to grow oysters on private beds, that is to say, that a lease be given (under bonds) for not more than nine years (renewable), at a nominal rent for the first three years, conditional on a sufficiency of brood oysters being planted on the area within one year after date of the issue of lease. The Government to have a lien on such planted beds;

IX. Easy and inexpensive arrangements, by which persons owning water frontages may lease their own foreshores for oyster culture from the Government;

X. That Parliament be invited to appropriate a sum or sums for the formation of oyster beds in various waters and places found adapted for that purpose, and for

transplanting oysters, and re-stocking exhausted fisheries by natural or artificial means—in accordance with section 21, sub-section 5, of the Fisheries Act;

XI. The appointment of a responsible officer of fisheries, capable of the position, and to rank with the Superintendent of Pisciculture as General Superintendent of Oyster Fisheries, and to have general superintendence of all public and private oyster culture;

XII. A system of registration of oyster boats, with other details to be arranged by the Department.

With reference to clause XII, Mr. Commissioner Ogden moved the insertion of the word "free" system of registration, &c.

Mr. Commissioner Deacon moved, seconded by Commissioner Duvar, that the annual registration fee for oyster fishing boats be one dollar—Carried. Mr. Ogden dissenting.

All of which above-written report is respectfully submitted.

Dated at Shediac, Province of New Brunswick, the fifth day of November, A.D. 1887.

EDWARD HACKETT, *Chairman*,
ALFRED OGDEN,
W. B. DEACON,
J. HUNTER DUVAR, *Secretary*.

Since the labours of this Commission were ended the undersigned has had the advantage of perusing, among other documents, a very interesting and recent work upon the "Economic Mollusca of Acadia," written by Professor W. F. Ganong, a native of New Brunswick, at present a lecturer in the University of Harvard. Mr. Ganong reviews the condition of our oyster beds and says: "There are two futures open to the oyster industry of Acadia; free fishing by the people and a lingering death, or a vigorous Government interference, and a great and lasting prosperity. This is the kernel of the whole matter; Government interference. It has worked well in other countries; it would, under the same conditions, work well in this. The duty of the Government, if it take charge of it, would be two-fold; to regulate the fishery on the public beds, and to give encouragement to culture by corporations and individuals.

"As to the first, the position and extent of beds must be determined, and each one given a period of rest, being fished not oftener than once in three years; the close season should be vigorously enforced; fishermen should be made, under heavy penalties, to return to the water all oysters under certain sizes; mud machines must be restricted to certain places in each district, being given ample liberty, but not allowed within a certain distance of any living bed; mills must not be allowed to discharge sawdust into the water within a long distance of a living bed; fishing through the ice should be regulated, so that refuse cannot be allowed to fall on the beds. As to the encouragement of culture, laws should be enacted which would give to a culturist as good a right to his product, and as full protection from theft, as has a farmer. Areas in good localities should be set aside and leased for long periods; but, as a rule, the public beds should not be trespassed upon. Some beds should always be reserved for public fishing; freedom to take wild game under common sense condi-

tions the Dominion should be very slow to take from its citizens. Private individuals should be encouraged to take their seed-oysters from our own beds, as there are none better nor so good for our climate."

The undersigned observes that, in France and in the British Isles, as well as in some parts of the United States, the oyster beds are divided into public and private fisheries, and a leasing or licensing system prevails in these countries.

It was evidently the intention of the Canadian Parliament, so long ago as 1868, to encourage in the same way the development of this important industry, as witness the provisions of 31 Victoria, cap. 60.

By this Act Parliament provides for the granting of licenses or leases for the exclusive right of fishing oyster beds in any of the bays, inlets, harbours, creeks, rivers, or between any of the islands of the coast of Canada. It provides for the expenditure by the Minister of Marine and Fisheries of all sums appropriated by Parliament "for the formation of oyster beds in various waters and places found adapted for that purpose, and transplanting oysters."

This Act further provides that shell-fish fisheries shall be subject to any regulation or regulations to be made under the Fisheries Act.

In a recent opinion, the Minister of Justice says:—

"The whole of the provisions of the Fisheries Act respecting licenses and leases of fishing rights, including those relating to oyster beds, are within the authority of Parliament. The Minister of Marine and Fisheries may, therefore, give an exclusive right of oyster fishing for any area of the sea coast, including the foreshore, that he thinks fit."

Sec. 4 of the Fisheries Act, chap 95, Revised Statutes, enacts that;—

"The Minister of Marine and Fisheries may, wherever the exclusive right of fishing does not already exist by law, issue or authorize to be issued fishery leases and licenses for fisheries and fishing wheresoever situated or carried on; but leases or licenses for any term exceeding nine years shall be issued only under the authority of the Governor in Council."

Sec. 21, sub-sec. 4, of the same statute, also provides that:—"Special licenses and leases for any term of years may be granted to any person who wishes to plant or form oyster beds in any of the bays, inlets, harbours, creeks, or rivers, or between any of the islands on the coast of Canada; and the holder of any such lease or license shall have the exclusive right to the oysters produced or found on the beds within the limits of such lease or license."

On this point the Minister of Justice is of opinion that it would be well that, "the instrument given should take the form of a license rather than that of a lease, inasmuch that it might be contended that, by an instrument of the latter kind, the Department intended to give possession of the sea-bed as distinguished from a license, and the owner, whether the Dominion or Province, or a subject, might contend that such an instrument interfered with the rights of the owners in fee. If the instrument take the form of a license it will be of the same utility to the holder as a lease; but the holder, instead of having an estate in the soil itself, would only have an exclusive franchise or right of user for the purposes mentioned in the Statute."

It is therefore apparent that, so far as legislation goes, it is possible to regulate in Canada this fishery as effectively as is done elsewhere, and the undersigned believes that, much can be accomplished under a proper system of regulations.

In dealing with this matter it is essential to remember the large field open to Canadians for profitable enterprise. The area on the Canadian coast suitable for oyster culture is enormous. This mollusk has been found from Bay des Chaleurs to Baie Verte in the following places, viz; between Caraquet Banks, at Caraquet, St. Simon, Shippegan Harbour and Gully, Tracadie, Tabusintac, Burnt Church, Bay du Vin, and many other places in Miramichi Bay; Kouchibouguac, Richibucto, Buctouche, Cocagne, Shediac, and Baie Verte. In Nova Scotia the oyster is found at River Philip, Pugwash, Tatamagouche, River John, Pictou, Tracadie, Mabou, Margaree, Sydney, Albert Bridge, Country Harbour, St. Mary's River, Liscombe Harbour, Jeddore Head and nearly everywhere in the Bras d'Or Lakes. It is found all around the Island of Prince Edward; many places in British Columbia are also adapted for the cultivation of oysters.

In 1878, 30,090 barrels were taken in Canada, valued at $90,270.00; and in 1882, 64,646, of a value of $193,938.00; while in 1884, only 41,956 barrels, valued at $126,458.00, were taken.

Prosecuted with greater energy than ever, and by more people, this fishery produced in 1888 only 56,234 barrels, valued at $163,902.00; being less than in the years 1887, 1886 or 1882.

The consumption or demand for oysters in Canada is considerable, there being imported in the year 1888 as many as 1,698 barrels, 234,502 gallons shelled in bulk, and 198,543 pounds canned or preserved. In 1880 this industy, in the United States, employed 52,805 men, and yielded 22,193,370 barrels, worth $9,034,861.00, and of this catch it is stated that 80 per cent. came from Chesapeake Bay. In 1881, in France, 29,431 men, women and children were employed in taking 374,985,770 oysters from September to June, worth 2,061,753 francs, equal to $412,350.60. This was from the public beds alone, independent of private beds.

In England, in 1883, the value of oysters taken was nearly $10,000,000.00 (£2,000,000.)

In a report made to the Minister of Marine in France by Mr. Brocchi, relative to oyster culture on the shores of the channel and of the ocean, and published in the *Journal Officiel de la République Française* of the 8th November, 1881, it is stated, when alluding to the success of the industry, that "the experiments to which the State devoted considerable sums produced great effect."

Attention should be directed to the Basin of Arcachon, where experiments have been crowned with wonderful success and to which the undersigned desires to call special attention. In 1863 oysters existed in a natural state in this basin, but ignorance and want of foresight had hitherto produced bad results. "The natural beds were silted up with mud, and the oysters were rapidly disappearing." The Government rented parts of the basin for culture, and in 1886 one of the places rented, that of Luhillon, four hectares in extent, furnished more than 5,000,000 oysters. The effect of this was to induce applications for concessions, which greatly increased. In 1879 one of the Government reserves (200 hectares) furnished

25,000,000 oysters. The Basin of Arcachon which, in 1858, only furnished oysters to the value of £100, in 1888, after the introduction of Government regulations and a system of cultivation, yielded 203,279,000 oysters, of a value of £178,887.00.

Mr. Brocchi states in his report that, while the number of "parcs" in 1865 was 297, it rose to 4,259 in 1880. That, during this period, the number of oysters exported rose from 10,584,000 to 195,477,375.

At Arcachon the rents ranged from 30 to 45 francs per hectare, according to the position of the "parcs;" while in Brittany 100 francs for an equal area is charged. Mr. Brocchi deprecates so high a tax upon the industry.

In a report to the Minister of Marine and Colonies in France by Mr. Bouchon Brandely, Secretary of the College of France, relative to the generative and artificial fecundation of oysters, published in the journal last referred to on the 15th December, 1882, he says:—

"The Marine administration has, since the creation of the ostricultural industry, "never ceased to encourage by different measures, such as concessions, missions, "&c., every attempt having for its object the development and perfecting of this "industry. It is to this, unquestionably, that ostriculture owes its present pros- "perity and the constant progress it has achieved—a progress which has been so "brilliantly represented at the Exhibition of Bordeaux."

Mr. Bouchon Brandeley, in another report (Rapport au Ministre de la Marine relatif a l'ostréoculture sur le littoral de la Manche et de l'Océan, extrait du Journal Officiel des 22, 24, 25 et 26 janvier 1877) remarks on the progress of oyster culture in France:—"The strict observance of the decrees of 1852 in the conduct of the fisheries may be regarded as having contributed largely to their actual prosperity. These decrees, the wisdom and opportuneness of which the event has demonstrated, were intended to stop the spoliation and exhaustion of the oyster-beds and subject their exportation to strict and regular regulations."

The persevering application of these measures, the care unceasingly renewed, the encouragement and the example which the administration of the Marine continually gave, resulted in bringing about the restoration of the natural beds, which were approaching exhaustion, and in provoking a revival of oyster culture by private individuals.

Professor Huxley and Sir James Caird, together with Mr. Shaw Lefebre, reported to the English Government in about the year 1863, calling attention to the falling off of the supply of oysters from the failure of spat. They recommended as therefore necessary the acquisition by individuals or companies of sea-bottom for oyster culture.

Archibald Young, advocate, Inspector of Salmon Fisheries for Scotland, in a report on the oyster and mussel fisheries in Wigtown Bay and Loch Ryan, and from Corsewall Point, outside Loch Ryan northwards, as far as the Island of Mull, remarks:—

"Promiscuous and ill-regulated fishing on any bed or scalp to which oysters or mussels are attached simply means the extinction of these oysters or mussels in a longer or shorter space of time, especially if no close-season is observed, and if immature fish are carried away and sold, instead of being returned to the bed.

"On this subject I am glad to be able to quote from such authority as Mr. Harding, who, in his paper on mussels and other mollusks used as bait and food writes as follows :—'I consider the best and only way that existing natural mussel beds can be properly cultivated and protected is to make them the actual property of some one. If they are allowed to be fished indiscriminately they will quickly become exhausted, as has been the case with hundreds of natural scalps on the coast. Fifty years ago mussels were very prolific on the east coast of England, and almost every small harbour had its natural scalps outside, which fed the 'lays' or fattening grounds inside, to the great profit of the owners of such lays. About that period some ill-starred individual discovered that they were valuable for manure, when commenced a raid on the scalps, which is the origin of their present downfall. I can remember, as a boy, seeing hundreds and thousands of tons brought to land and sold to the farmers for manure at three-half pence a bushel.

"'An Act was passed by Parliament, in 1868, called 'The Sea Fisheries Act, 1868,' which enables the Board of Trade to grant provisional orders to corporations and private individuals to regulate oyster and mussel fisheries; but the result so far has been very unsatisfactory.'"

Elsewhere he writes :—"The secret of the whole matter is, that where mussel and oysters cultivation has proved successful the person undertaking the same has obtained a concession from the Government to work the beds exclusively himself, and has not been hampered by other persons claiming a right to fish on his grounds; in other words, fishings are worked in precisely the same way as farms on the land, where the farmer sows his seed and, at the proper season, reaps his corn."

"He," Mr. Gibbon, "thinks that the allowance of the general public to fish for oysters or mussels without restriction or regulation means the inevitable destruction of the beds—some sooner, some later."

"The oyster fishings in Scotland, once so productive, have now dwindled down to a value of about £1,000 a year, or a fraction of what they once yielded. There are scores of proprietors in Scotland—I can state from personal knowledge—willing and anxious to begin oyster culture, to re-stock exhausted oyster beds or to establish new ones; but they decline to make the experiment and run the risk unless they are protected, as in the United States of America, where, for example, in the State of New York, the States sells to individuals an absolute right to fore-shores and sea-bottom suitable for oyster culture, and guarantees, at the time, that that right will be protected by the State. It takes from three to four years to rear a marketable oyster; and if during that period there is no security against a fleet of fishing boats swooping down and dredging out all the oysters, as has happened more than once, the proprietor would be a fool who would attempt oyster cultivation.

"At Oban I had a long interview with M. Blackie, manager of the Highland Fisheries Company. He thinks that the Fishery Board should be empowered to regulate the mode of fishing oyster and mussel beds—that is to say, by marketing them out, ond providing that a certain portion of them shall remain fallow every, and also by fixing a gauge, under which no oyster or mussel shall be allowed to be taken."

"Immediately after my visit to Loch Creran Mr. Anderson addressed to me the following letter, dated 27th July, 1887, on the subject of the oyster and mussel fisheries on the west coast :—

"'Dear Sir,—With regard to our conversation of yesterday as to the cultivation of shell-fish on the West coast, I trust the Board will see proper to take action so as to protect this industry, without which protection it can never assume any important proportions.

"'I had formerly occasion to address the Board as to the cockle beds of Barra, since which these valuable beds have followed the great mussel grounds of Loch Roag and elsewhere to comparative destruction. Every bed attacked will be treated in the same manner. So long as there is no control the people will continue to fish them out; while, at the same time, they would willingly have the beds protected against themselves were they equally protected against their neighbours.

"'Besides the acts of depredators upon private beds, the industry at present requires to be protected.'"

During the last session of the Canadian Parliament an interesting discussion took place regarding the oyster fisheries of the Dominion. Senator Poirier brought the subject to the notice of the Senate, and especially alluded to the great destruction caused by winter fishing through the ice, when small oysters and spat were destroyed in great quantities. Senator McFarlane, whose great experience renders his views especially important, pointed out the hardships which the prevention of winter fishing would cause to many people. He strongly advocated restoration of exhausted beds by the Government.

Referring to the subject of Government cultivation, Mr. Young, from whom the undersigned has already quoted, says:—

"Mr. McGibbon, Ivy House, ex-Provost of Stranrar, who has long been well acquainted with the oyster fisheries in Loch Ryan, and takes a great interest in them, recommends that the Fishery Board should select a suitable locality for the cultivation of oysters and mussels, that is to say, a locality not only physically suitable for the cultivation of the mollusks, but also capable of being easily watched and protected, and demonstrate to the fishermen the advantages of scientific cultivation of both as regards themselves and the general public."

The undersigned, in view of the experience obtained in other countries, and the opinion of the foregoing eminent authorities, accordingly approves of the suggestions of the Commissioners already referred to, in so far as they advise:—

1. Defining the limits of the oyster beds in Canada—that is, to survey the natural beds and prepare special charts showing the location of the present as well as of the abandoned beds, for the purpose of laying out areas in connection with a license system, which should be at once adopted and put in force.

2. Prohibiting mud-digging in the vicinity of oyster beds. The digging could be done under the sanction and direction of the nearest officer.

3. Fishing in certain divisions only during alternate years.

4. Retaining the present close-season, viz., from 1st June to 15th September.

5. No round oysters under 2 inches in diameter of shell, nor long oyster under 3 inches of outer shell, to be taken.

6. Prohibition of public fishing in localities where the supply is nearly exhausted.

7. That a sum be appropriated by Parliament for the formation of beds and for re-stocking exhausted fisheries, in accordance with sec. 21. sub-sec. 5 of the Fisheries Act.

The recommendations of the Commission regarding:

1. Prohibition of winter fishing;

2. Arranging for owners of fore-shore to lease the same for oyster culture;

3. Appointment of a special staff of officers;

4. Registration of oyster boats the undersigned does not think should be adopted.

The prohibition of winter fishing is, in the opinion of the undersigned, a measure far too severe to be at present enforced; it is possible to make other provisions preventing much of the injury done by winter fishing, such as to provide against leaving small oysters on the ice, but to see that they are immediately returned to the place from which they may come.

The suggestions regarding owners of fore-shore do not appear to be expedient, such owners having no special rights regarding the oyster fisheries.

As to the recommendation regarding the appointment of a special and expensive staff of officers, it appears to the undersigned that, with occasional local temporary help, it is possible to do all that is required with the staff in the service of the Fisheries Department.

The undersigned begs, therefore, to recommend the adoption of the following regulations:—

1. No one shall fish for or catch any oysters in the Dominion of Canada, except under the authority of the Minister of Marine and Fisheries;

2. No one shall fish for or possess any oysters between the first day of June and the fifteenth day of September in each year, both days inclusive.

3. No one shall fish for, catch or possess any oysters less than 2 inches broad or less than 3 inches in length. All oysters taken under these dimensions to be immediately returned to the water, under penalty of fine and forfeiture of all materials, implements or appliances used, and the cancellation of the license.

4. Mud-digging is prohibited within 200 yards of any live oyster bed, and then only at such place or places as may be prescribed by a fishery officer.

As the open season for oyster fishing began in September last, and will not end until June next, interference at present with the operations of those engaged in the industry; so far as the introduction of a license system, under the first regulation herein proposed, would be inexpedient. The undersigned therefore recommends that the said first regulation shall not be of any force or effect until September next.

The undersigned being anxious to establish the necessity of practically demonstrating the possibility of restoring oyster beds, and with the view of encouraging private culture, proposes to re-stock the once famous but now exhausted beds of Summerside Harbour and Bedeque, in the Province of Prince Edward Island; and for this purpose he has the honour to recommend that a sum of $5,000 be placed in

the Supplementary Estimates towards assisting the formation and planting of oyster beds.

Respectfully submitted.

(Signed) CHARLES H. TUPPER,
Minister of Marine and Fisheries.

Upon this report a Minute was based, approving of its recommendations, except in the case of mussel-mud digging, which it recommended should be changed to a distance of not less than 200 feet, instead of 200 yards, as recommended.

This Minute further directed that the regulations should not take effect until a survey was made, and for which Parliament at its last Session made and appropriation of $5,000. Steps have been taken to proceed with this survey, and it is confidently anticipated that before the end of the summer of 1891 it will have sufficiently progressed to admit of the formation and cultivation, under proper restriction, of public oyster beds.

Meanwhile, and to facilitate the applications of persons desirous of obtaining exclusive licenses for the cultivation of private oyster beds, the following "Regula-" tions to guide Surveyors in peparing plans and descriptions for applications for " oyster fishing licenses " have been prepared :—

REGULATIONS *to guide Surveyors in preparing Plans and Descriptions for applications for Oyster Fishing Licenses.*

1. All surveys of Oyster License Limits are to conform to the largest scale Admiralty Chart published, of the Harbor or locality to which the application refers. Such Chart can be seen on application to the Fishery Overseer of the District in which the limits are situated.

2. Boundaries are to be fixed by reference to well-defined objects marked on the charts, or by any surveyors' boundaries already existing, but in these last cases the surveyors' boundaries must be defined for platting on the chart by reference to points marked on the chart, so that they can be accurately located by the officers of the Department from the surveyor's description.

3. Where surveys are bounded by lines, these lines must be due astronomical east and west and north and south lines.

4. The extremities of any lines, or other boundaries, when on land, must be marked by monuments, in accordance with the law governing land surveys.

5. The boundaries of lots, when in the water, must be so defined that they can easily be located at any future time. Satisfactory definitions would be two cross ranges on land, separated by an angle of at least 60 degrees, with the objects in range defined on plan, or at least three sextant angles, each of not less than 40 degrees, measured to four prominent objects on shore shown on the chart. Compass bearings alone, unaccompanied by any other check, will not be accepted.

6. A plan of the survey must be furnished, which is to made on the basis of the Admiralty Chart of the locality as above mentioned, either on the same scale or some multiple thereof, or it may be platted upon a printed copy of the chart. On the plan all boundaries, distances, bearings and connections, with reference points, must be distinctly shown, and an error, clerical or otherwise, will condemn the whole survey.

7. The plan must be accompanied by a description giving the metes and bounds of the lot and its area in acres, in such terms as would in the case of an ordinary land survey be held in a court of law to be a legal description for a title deed.

8. In the event of previous surveys having been made in the same locality, the plan is to show the nearest boundaries of such surveys, and their relation to the new survey.

Forms of applications and licenses have also been prepared. It is contemplated that the rental chargeable under these licenses shall be moderate, but that the *bona fide* character of the application shall be satisfactorily established, and that subsequently the conditions regarding an active and intelligent proceeding with the work shall be rigidly enforced. The questions of a better system of barrelling oysters, and that of inspection, are held for consideration later on; but I cannot refrain from stating, in this connection, that there is no good reason (unless it be that of careless selection and packing) why Canadian oysters, better in flavor as they are, now bring but a little more than half the price of the American oyster.

The following memorandum by one of the Inspectors of Fisheries of the British Board of Trade (Mr. C. E. Pryer) will be found of interest:—

"The enquiry made by the Canadian Minister of Marine and Fisheries appears to refer to the methods adopted in England and France for the selection, for the purpose of oyster cultivation, of areas on which oysters do not naturally exist. So far as England is concerned, the efforts to develop the oyster fisheries have been almost entirely, if not altogether, limited to the maintenance of the supply from actually productive beds, and to the resuscitation of natural beds whose productiveness has deteriorated. Little or nothing has, as yet, been done in this country in the way of attempting to create new oyster beds by stocking grounds not previously known to have produced oysters naturally, though small areas of ground artificially prepared are, in some cases, used as places for the growth, or for the simple storage of oysters dredged from the natural beds, in contiguity to which such areas are usually located. In the majority of cases these areas are private property, and the steps taken are entirely at the discretion and risk of the proprietors or promoters. In cases where application is made for an order giving private rights over grounds on which there is a public right of fishery, it is usual for an inspector to make an examination of the ground by dredging, and to satisfy himself that the conditions are such that there is a reasonable prospect of oyster culture proving successful, and that the probable advantages are not so problematical as to render it undesirable to interfere with the public right of fishing for other fish.

"The conditions suitable for oyster culture vary, of course, in different localities and with different classes of oysters, but the general requirements may be said to be a suitable soil, consisting preferably of a bed of shells superimposed on hard mud or clay, an absence of sand, and of five fingers, dog-whelks, crabs and other enemies of the oyster, a tidal flow, and a certain admixture of fresh water, varying according as the bed is required for breeding purposes, or mainly as a fattening ground. In some cases oysters grow abundantly on rocky ground, and it is impossible to say generally, without a full knowledge of the circumstances of each case, how far any particular area may or may not be or become a likely oyster ground.

"A further consideration, which must not be omitted is, the difference between the ordinary American oyster and the European oyster.

"As regards France, I believe the above remarks apply generally. Oyster culture is carried on in that country to a far greater extent than in England, but I

am not aware of any French beds artificially constructed or improved which are not on the site of or closely contiguous to grounds originally producing oysters without artificial help.

"At Arcachon, for example, where the most important of French artificial oyster fisheries are situated, the greater part of an extensive land-locked bay, portions of which originally contained natural oyster beds, has been converted into an oyster farm. The mud lands, foreshore and shallows are parcelled out into small areas allotted to different proprietors and concessionaries, and the flow and reflux of the tide are regulated by means of low embankments and sluices. In this way the water can be retained over ground, which would otherwise be too long exposed during the ebb, or it can be excluded when necessary for such purposes as the preparation of the 'collectors' for the spat, the removal of spat, the sorting of oysters, &c. The supply of suitable soil is limited, but in many cases, by its skilful utilization, it has been spread over areas otherwise unsuited for the purpose of oyster culture.

"In Holland, also, where in some respects oyster culture is carried to a higher degree of development even than in France, and the area of many oyster beds has been extended over spots on which, without such artificial preparation, oysters could not possibly have grown, the natural beds have formed the nucleus of the 'artificial' grounds.

"A notable instance may be found near Bergen-op-Zoom, where the construction of a railway embankment converted one of the mouths of the Scheldt into a quasi bay almost land-locked, which has since been cultivated as an oyster farm, similar in general features to that at Arcachon, the flow of the tide being regulated by sluices. Oysters always existed over certain parts of the area, but by the construction of dykes, pits and channels, the area naturally available for the production of oysters is largely increased.

"It is not to be inferred that ground on or near which oysters have never existed may not possibly be converted into an oyster bed, but the probabilities are in favour of spots whose natural adaptability is shown by the presence or former existence of oysters."

LAKE OF THE WOODS.

Another question which requires co-operation on the part of United States' authorities concerns the fishing in the Lake of the Woods. Representations from various sources established that these waters were being over-fished. The large extent to which the Indians (both of the United States and Canada) were dependent upon the fisheries for their sustenance renders some action, looking to the preservation of the fisheries, of the utmost importance.

The circumference of the Lake of the Woods is about 300 miles; its area 1,094 square miles, 457 of which are within the boundary of the United States. This will give some idea of the extent of its fishery. There are in the immediate vicinity of the lake about 1,000 Canadian Indians.

Concerted action of the Departments of Indian Affairs and Fisheries, looking to some limitation being placed upon fishing operations there carried on, being deemed

expedient, a Minute of Council, based upon the joint report of the Superintendent General of Indian Affairs and the Minister of Marine and Fisheries, was adopted on the 20th August, 1890, as follows:—

"On a joint report from the Minister of Marine and Fisheries and the Superintendent General of Indian Affairs, stating that excessive fishing is now being carried on in Lake of the Woods, threatening the entire depletion of the fish therein, and that in order to conserve such fisheries as a means of livelihood to the Indians it is necessary to afford protection thereto, by prohibiting the use of pound-nets in the above mentioned waters.

"The Ministers are impressed with the importance of the matter, and the advantage to the Government in connection with the support of the Indian population in the Lake of the Woods and Rainy River region lying within the Provinces of Ontario and Manitoba, as well as in the neighbouring State of Minnesota, of whom there are on both sides of the line abont 3,000 souls.

"Game is fast disappearing, while Indians are not sufficiently advanced in the art of agriculture to support themselves by tilling the soil, and unless some strict measures are taken to protect the fish supply their sustenance will devolve upon the Indian funds of the respective Governments.

"The principal fish frequenting these waters is the sturgeon, a large fish, which forms the main article of food for the Indians. Its sluggish nature renders its capture comparatively easy, as they can be herded into nets with little difficulty.

"The Ministers believe that the reservation of the fishing rights in these waters to the Indians, while interfering with no legitimate industry, will assure to them a means of support, which, by careful fostering and proper protection, can be made enduring, and thus obviate the necessity for large outlay on the part of the Government in sustaining these Indians in the future.

"The Ministers further remark that a reservation of this nature would, in view of the geographical position of the waters in question, be equally advantageous to the Government of the United States as to that of the Dominion of Canada; and they are of the opinion that, as action by Canada alone would be of little value, it is desirable to seek the co-operation of the United States' Government, with a view to effecting some international arrangement by which the above mentioned waters would be reserved for the exclusive benefit of the Indians of the two countries, and that fishing by means of pound-nets and similar fishing engines be prohibited, reserving, however, the right in common of fishing by hook and line.

"The Committee recommend that Your Excellency be moved to transmit a copy of this Minute to the Right Honourable the Secretary of State for the Colonies, for submission to Her Majesty's Government, with a request that it be brought to the notice of the Government of the United States of America, with the expression of a hope that the above mentioned arrangement may be effected."

It has been learned, since this Minute was approved, that the American portion of the Lake of the Woods had lately been ceded to the Indians, and that this change in its status raised some question as to who should be the proper authority to deal with the question. The whole subject was referred to the Secretary of the Interior of the United States by the Government of that country.

NEWFOUNDLAND BAIT ACT OF 1889.

In 1887 the Legislature of Newfoundland passed an Act intituled, "An Act to regulate the exportation and sale of Herring, Capelin, Squid and other Bait Fishes."

In June, 1889, the Legislature of Newfoundland passed an Act intituled, "An Act to amend and consolidate the Laws relating to the sale and exportation of Bait Fishes," similar to that of 1887.

The 25th section of this Act provided that it shall come into operation at such date as shall be appointed by the Governor by his Proclamation. The Act was so proclaimed on the 3rd of April, 1890. The terms of this Act may, in brief, be stated as follows:—

All foreign and British vessels not belonging to this colony which require bait from our coasts for the prosecution of the cod fishery can only obtain it on taking out a license at an ordinary port of entry, and giving bond in the sum of 1,000 that the bait shall be used *bona fide* for the purpose for which it is obtained. This license is issued upon the payment of a fee of $1 per ton, and entitles the holder to purchase bait for three weeks, but only to the extent of one barrel per ton register. Should fresh supplies of bait be required after the expiration of three weeks the vessel must re-enter at a Customs port, and again take out a license on similar terms to the first, and so on through the fishing season. Light dues will, of course, be exacted as heretofore.

The Colonial Secretary of Newfoundland, under date 15th April, 1890, in conveying information as to the terms of the Act to the Dominion Government, stated that the Executive Council deemed it desirable that the Government of Canada should be informed as to the course which had been decided upon for the carrying out of the Bait Act of this colony during the ensuing fishing season, so that vessels arriving from the Dominion may be prepared for the change which it has been found necessary to adopt in order to ensure that the intention of the Legislature should, as far as possible, be attained. It was further stated that it was not deemed necessary to remind the Canadian Government of the circumstances under which the "Bait Act" was passed; but, in explanation of the procedure adopted, it was stated to have been found impossible to so effectively carry out the law as to stop the French obtaining what they required, whilst the United States' vessels under the *modus vivendi* and British ships not of this colony, and over which it could exercise but scant control, were permitted to come to its shores and take full supplies, which, in many cases, found their way to St. Pierre. It was further stated that the Government had no alternative but to put all outside vessels on the same footing, thus securing to Newfoundland the advantages of a trade that others were engaged in at its expense, and limiting, so far as practicable, the destruction of its bait fishes.

On the 24th April, immediately upon the receipt of information as to the proclamation of the Act referred to, a Minute of Council remonstrating against the restrictions placed upon Canadian vessels by the Act was telegraphed to Her Majesty's Government.

Your report of 26th May, 1890, reviews the question, and I therefore, recite it here:—

"OTTAWA, May 26, 1890.

"The undersigned, adverting to the despatch of Sir Terence O'Brien to Your Excellency, dated the 15th April, 1890, and to the cable message of the 8th May from Lord Knutsford, has to observe that in the year 1886 an Act was passed by the Legislature of Newfoundland, entitled, "An Act to Regulate the Exportation and Sale of Herring, Capelin, Squid, and other Bait Fishes." This Act was in February 1887 disallowed by the Imperial authorities.

"On the 21st February, 1887, the Legislature again passed an Act, entitled, "An Act to Regulate the Exportation and Sale of Herring, Capelin, Squid, and other Bait Fishes."

"Upon the 11th April, 1887, a Minute of Council was approved by His Excellency Lord Lansdowne, in which various objections on the part of Canada to this legislation were mentioned. In this Minute it was shown that under the Act—

"1. Our fishermen upon the Grand Banks would be cut off from their free supply of bait, either by purchase or catch;

"2. Our fishermen upon the coast of Labrador would be debarred from the privilege of free catch of herring and their hitherto untrammeled trading in herring;

"3. Whatever trade was then done by Canadian vessels in herring, or bait-fishes, upon the Newfoundland coast, would be no longer left free.

"The Minister of Justice, to whom the report of the Minister of Marine and Fisheries (upon which the said Minute was based) was referred, concurred in the views therein expressed, and submitted the following observations:—

"'It seems desirable that the attention of Her Majesty's Government should be called to some of the very unusual provisions in this Bill. The prohibition in reference to purchasing bait extends to all places on or near any part of the Colony of Newfoundland and its dependencies. This really gives no limit to the extent of the enactment capable of being defined, and, inasmuch as a violation of the provisions of the Bill is to be followed by very heavy penalties, he, the Minister of Justice, thinks that such an enactment would be embarrassing and opressive in its operation.

"'The Bill gives extraordinary jurisdiction to Stipendiary Magistrates. The most stringent Acts against fishing by foreign vessels in other parts of North America and given such jurisdiction only to the Vice-Admiralty Courts. The Stipendiary Magistrates' Courts are inferior tribunals, without any regular legal procedure, and presided over by persons who are not necessarily possessed of legal qualifications.

"'The Bill contains extraordinary inducements to persons to take up the task of prosecution. On conviction half of the fine goes to the prosecutor; on acquittal the prosecutor is still to be rewarded; so that encouragement is given to those who would be disposed to harass and annoy vessels from other parts of British North America by prosecutions which cannot be sustained.

"'It is to be observed that the appeal which is to be given from a Stipendiary Magistrate's decisions is of little advantage, as the fishing season would probably be passed and a captured vessel be rendered comparatively useless before the termination of the appeal.'

"A remonstrance against the Royal Assent being given to the Act was accordingly forwarded to Her Majesty's Principal Secretary of State for the Colonies.

"This despatch was referred by Her Majesty's Government to Sir R. Thorburn and Sir A. Shea, who had been delegated by the House of Assembly of Newfoundland to make representations to Her Majesty's Government on the subject of this Bill.

"The assurance conveyed by the above delegates that Canadian fishermen would enjoy equal privileges with those of Newfoundland, and that there would be no restrictions on the bait supply of any British subjects, were deemed by Her Majesty's Government to offer, in the language of Sir Henry Holland, Secretary of State for the Colonies, 'sufficient safeguards for Canadian interests,' and consequently, Sir Henry Holland went on to say, in his despatch to Lord Lansdowne, 'Her Majesty's Government did not, therefore, hesitate to advise Her Majesty's assent to it.'

"Accordingly, the following Minute of Council was, on the 11th October, 1887, approved by his Excellency Lord Lansdowne:—

"'The Committee of the Privy Council have had under consideration a despatch, dated the 20th May, 1887, from Sir Henry Holland, enclosing copies of correspondence which had passed between the Colonial Office and the representatives of the Government of Newfoundland, then in London, regarding the Newfoundland Bait Bill.

"'The Minister of Marine and Fisheries, to whom the papers were referred, reports as follows: 'It appears from the correspondence that a copy of the Minute of Council, dated the 11th April, 1887, urging the objection taken by the Canadian Government to the Bait Bill becoming law, was submitted to Sir R. Thornburn and Sir Ambrose Shea for their consideration. The replies made thereto by these gentlemen conveyed ample assurances that the Government of Newfoundland, in the passage of this Bill, were not actuated by any desire to curtail the privileges of British fishermen, and had no intention of allowing the law to be operated to their prejudice; that no regulations were proposed which would unnecessarily hamper the operations of their own British fishermen, and that every facility would be afforded for procuring the licenses under the Act.'

"'Sir R. Thorburn also authorized the dispatch of a telegram by the Attorney-General of Newfoundland to the Canadian Government, conveying the assurance that Canadian fishermen would enjoy equal privileges with those of Newfoundland, and that there would be practically no restriction on the bait supply of any British subjects.

"'These assurances appear to Her Majesty's Government to offer such sufficient safeguards for Canadian interests that Her Majesty was at once advised to assent to the Bill.

"'The Committee, concurring in the report of the Minister of Marine and Fisheries, respectfully recommend that Your Excellency be moved to transmit a copy of the despatch above mentioned and enclosures (permission having been obtained from the Colonial Secretary) to His Excellency the Governor of Newfoundland, for the consideration of his Ministers, and with a request that they will indicate, at the earliest convenient period, the nature of the regulations under which it is proposed

that Canadian subjects shall enjoy the rights of fishing and procuring bait in the territorial waters of Newfoundland.

"'The Committee further recommend that Your Excellency be also moved to transmit a copy of this Minute to His Excellency the Governor of Newfoundland.'

"It is to be further observed that Sir G. William Des Vœux, Governor of Newfoundland, in his despatch of the 14th January, 1887, addressed to the Right Honourable Her Majesty's Principal Secretary of State for the Colonies, when urging the allowance of this Bill, argued entirely upon the grounds that it was aimed solely against foreign fishermen, and Sir G. William Des Vœux, in this despatch, stated:—

"'I may mention that every day's delay is causing loss to this colony, in restricting preparations for next season's fishing; for the allowance of this Bill would be at once followed by a large increase in the number of British vessels employed in Bank fishing: and even now it is too late, in some cases, for arrangements that would enable advantage to be taken of the earliest portion of the season.

"'Moreover, it is only fair to the French that if they are to be prohibited from procuring bait here during the coming season, they should be made aware of the fact at once, in order that they may restrict their operations accordingly, it being probable, as regards the large number of vessels which annually leave France for these fishing grounds, that preparations are being made already for their dispatch in order to enable them to obtain bait and commence fishing at the beginning of April; and thus, not merely in the interest of this colony and Canada, but for the sake of international comity, I would respectfully urge that, in the absence of a fixed decision against this measure, the delay which has already taken place in respect of its allowance should not be further prolonged.'

"Upon the 20th April, 1887, the Minister of Marine and Fisheries received, at Ottawa, the following telegram from the Government of Newfoundland:—

"'We learn with surprise and regret that your Government apprehend our Bait Act will interfere with Canadian fishermen. I am authorized to give you fullest assurance no interference or hindrance whatever of Canadian fishermen contemplated. Act necessarily framed so as to confer upon Governor discretionary powers in granting licenses to sell or export bait, our only object being to prevent supply to foreign subsidized rivals. Fullest rights and privileges of all British fishermen to take or purchase for their own use, as hitherto enjoyed will be mantained. Please communicate this information to your representative or agents in London, to remove objection to our Act and promote Royal Assent.

(Signed) "'ATTORNEY-GENERAL.'

"In June 1889, the Legislature of Newfoundland passed "An Act to Amend and Consolidate the Laws relating to the Exportation and Sale of Bait Fishes." This Act (June, 1889) was proclaimed by his Excellency Sir Terence O'Brien, Governor of Newfoundland, the 3rd April, 1890.

"'By the provisions of this Act, as stated by the Colonial Secretary of Newfoundland to Cecil Fane, Esq., under date 15th April, 1890, 'all foreign and British vessels not belonging to this colony which required bait from our coasts for the prosecution of the cod fishery can only obtain it by taking out a license at an ordinary port of

entry in the form herewith, and giving bond in the sum of $1,000 that the bait shall be used *bonâ fide* for the purposes for which it is obtained.

"'This license is issued on payment of a fee of $1 per ton, and entitles the holder to purchase the bait for three weeks, but only to the extent of one barrel per ton register.

"'Should fresh supplies of bait be required after the expiration of three weeks the vessel must re-enter at a Customs port and again take out a license on similar terms to the first, and so on through the fishing season. Light dues will of course be exacted as heretofore.'"

"Loud complaints have reached the undersigned from Canadians interested in Bank fishing against this legislation, which threatens most serious injury to a large and important portion of Canadian industry. It is represented by those engaged in the cod fishery from Nova Scotia that the effect of this heavy tax will be to destroy the Bank fishing of that Province.

"The returns for the last year show that of Canadian vessels engaged in the Bank fishery there were not less than 203, with a tonnage of 18,124. The total catch amounted to 35,821,871 lbs. of fish.

"Accordingly, on the 24th April Your Excellency was pleased to approve of a Minute in Council recommending that a telegram be sent to the Right Honourable the Secretary of State for the Colonies, expressing the desire of Your Excellency's Government that a remonstrance should be made to Her Majesty's Government on the restrictions placed on British ships owned or sailed by Her Majesty's subjects in Canada under the Newfoundland legislation referred to.

"From the telegram of the 8th May from the Right Honourable the Secretary of State for the Colonies to Your Excellency, it appears that Lord Knutsford does not consider the Bait Act *ultra vires*, and His Lordship supposes representations have been made direct to Newfoundland.

"The undersigned has not discussed the authority of the Legislature of Newfoundland to enact the legislation complained of; but he desires to call attention to the solemn assurance given by the Government of Newfoundland, of the definite and positive character already referred to, to the effect that it was not intended to enforce this Act against Canadian and British vessels, and that it would not be so enforced.

"It is therefore with surprise that the undersigned now learns that the provisions of the Act are being enforced against Canadian and British vessels, as well as against those of foreign countries, and he trusts that when the attention of the present administration of the Government of Newfoundland is called to the agreement of its predecessors in office, that in accordance with that understanding the provisions of the Act will no longer be enforced against British or Canadian vessels.

"It may not be out of place to refer to the friendly co-operation which has hitherto existed between the Governments of Canada and Newfoundland in connection with their respective fishery and commercial interests.

"Fishing-vessels of Newfoundland are now and have always been permitted to enjoy the inshore fisheries and port privileges of Canada, in common with those of Canada, and while light dues, harbour dues, and pilotage dues, are exacted

by the Government of Newfoundland from Canadian fishing craft, there are no corresponding taxes paid by the vessels of Newfoundland to the Dominion of Canada.

"Canada at present maintains, free of all charges upon shipping, five lights and four fog-signals on the coast of Newfoundland, and by liberal subventions serves many ports in Newfoundland by a mail and freight packet.

"The Bank fishery is now in an advanced stage, and the undersigned has the honour to recommend that the Government of Newfoundland be directly advised that the Canadian Government confidently expect that on a consideration of the facts connected with this legislation and of the relations hitherto existing between the Dominion of Canada and that colony, the Administration of the Newfoundland Government will be pleased to suspend the operations of the Act so far as it affects Canadian and British vessels.

"The undersigned further recommends that the Right Honourable the Secretary of State for the Colonies be informed that Your Excellency's advisers earnestly desire the immediate co-operation of Her Majesty's Government in preventing serious loss and damage being inflicted upon so many of Her Majesty's subjects as are interested in the important industry of the Bank fishery.

"Respectfully submitted,
"(Signed) CHARLES H. TUPPER,
"*Minister of Marine and Fisheries.*"

On the 20th June, 1890, a Minute of Council was adopted by the Governor of Newfoundland to the effect that from this date the vessels requiring capelin and squid may, instead of paying tonnage license, obtain a license to purchase the particular quantity of bait they require, by paying a license fee calculated at the rathe of $1 per barrel, but no vessel to take more than 40 barrels. It was represented, however, that in the opinion of the Canadian Government, this modification in no way met the objections to the Bill.

The subject was fully discussed on the occasion of the visit of the Honourable the Minister of Justice to England. Members of the Government of Newfoundland met Sir John Thompson and the High Commissioner and the question was to receive careful attention on the part of the Newfoundland Government on the return home of the delegation from that Government then in London.

I am not aware of any further communication having as yet been received from Newfoundland on this subject.

INTERNATIONAL SAWDUST.

The question of the injurious effect resulting from the deposit of sawdust and mill rubbish upon the salmon fishing in the River St. John, and especially in the head waters of the river, has for some time past engaged the attention of the Department.

In a Memorial from the owners of saw-mills on this river, praying for the exemption of their mills from the operations of the Fishery and Navigable Rivers Act, it was set forth that no law existed in the State of Maine on this subject, and that on that portion of the River St. John which formed the boundary line between

the United States and Canada there were at least eight or ten mills on the United States side to one on the Canadian side of the river, and that as all the sawdust from the mills on the Maine side were permitted to be carried into the river, without restriction, any benefit which could possibly result from a stringent enforcement of the law in New Brunswick would be very trifling, and outweighed many times by the injury to the milling business in that Province.

In consequence of the above statement, an exhaustive report, dealing with the question in all its aspects, was submitted to the Privy Council and as a result a Minute adopted, recommending that a copy of the report be transmitted through the usual channel to the Government of the State of Maine, in order that the question might be considered by the Government of that State and united action adopted by both the Canadian and State Governments.

The Department has been advised, through the usual channel, that the matter had been brought to the notice of the Governor of Maine, and that it would engage the attention of the Legislature of that State.

PROTECTION OF LABRADOR FISHERY.

A somewhat lengthy correspondence has taken place between this Department and the Quebec Board of Trade, relative to the protection of fish on the coast of Labrador. Owing to inaccurate information and an incomplete knowledge of the question, the Board claimed that seine and trap fishing, were injurious to the cod fishery. It was informed that this mode of fishing had been practised for many years on the coast, and that no specific charges, supported by facts, were ever made against the system. It was also explained that that the Labrador fishery was altogether different from any other fishery in the Gulf, or on the sea-coast. The fishing season is short, lasting barely one month; sometimes only a week. When cod are schooling inshore, after capelin, they will not take the hook, however abundant the fish may be. Twine must then be used, or the fishery becomes a failure. Cod fishing is always uncertain, several unsuccessful years being generally followed by successive good ones. Last year was a good year.

PURSE SEINES.

The destruction that the use of these seines has worked in the mackerel fishery, both on the coasts of the United States and Canada, has ceased to be either a matter of doubt or controversy; the consideration, therefore, of remedial measures is of paramount importance.

By reference to Appendix 9 it will be seen with what unerring certainty, the decline of this fishery during the past few years has gone on, and although in particular localities the take of mackerel for the season of 1890 shows an increase, as a whole the catch has been less than any year in the history of the fishery.

Shore fishing in Canadian waters was, during the past season, carried on almost wholly by means of hook and line, and the high prices obtainable for mackerel, rendered the operations of the fishermen very profitable.

It is, of course, well understood that United States fishing vessels have, since the lapse of arrangements under the Washington Treaty, been prohibited from

fishing by purse seines, or any other means, within the territorial waters of the Dominion, but they have been, and are, free to pursue their fishing operations, outside such limits, in any manner they see fit. When it is remembered that during the season of 1885, the last in which United States vessels had free access to our inshore fisheries, the total catch was 330,000 barrels, while the catch during the past season was but a little over 100.000 barrels, it will be realized how startling the decrease has been. The fact, however, must not be lost sight of that the percentage of fish taken by our own fishermen within our territorial jurisdiction largely exceeded in 1889 that of 1885.

The United States Government realizing the disastrous falling off on its coasts of the mackerel fishery, but being unable to directly control or successfully prohibit the use of purse seines, to which such falling off was attributed, passed an Act prohibiting the landing of mackerel taken by means of these seines on any part of the coast of the United States, before the first of June in each year. As by this date many of these migratory fish had found their way to the coast of Nova Scotia and the Gulf of St. Lawrence, it will readily be seen that had the fish been at all plenty in the waters named, the seining operations of the United States vessels would, to a very much larger extent than was done, have been there carried on all such vessels being provided with purse seines.

To take any action looking to a restriction upon Canadian vessels in the use of purse seines, while those of the United States continue fishing operations therewith, would be manifestly unjust, and it was therefore deemed expedient to seek joint action on the part of the Governments of the United States and of Canada, having in view the abrogation of this mode of fishing to which may be directly traced the well nigh destruction of our valuable mackerel fishery.

On the 22nd May 1890 the following minute of the Privy Council was adopted, based upon your report, dealing with the whole question, and as directed by this minute, the subject was brought to the notice of the Government of the United States through the usual official channel:—

"On a report dated 24th April, 1890, from the Minister of Marine and Fisheries, stating that the records of the Department of Fisheries are replete with reiterated complaints against the use of purse seines for the capture of mackerel, on account of their destructive nature.

"The Minister observes that the principal arguments against this particular form of fishing engine are that a vast and alarming numbers of young and unmerchantable fish are destroyed, and while they at the period of destruction are of no commercial value, yet if allowed to remain in the water they would in course of time mature and keep up the supply of this fish. The effect of the purse seines upon the fish when schooling is to break up the schools: rendering the fish wild and shy, keeping them constantly on the move, an frequently causing them to disappear for a long time.

"The Minister further observes that the Purse Seine is very fully described in Professor Brown Goode and associate's report as follows:—

"'The large seine used only in connection with the largest kind of seine boat is 190 to 225 fathoms in length, and 20 to 35 fathoms in depth when it is hung,

being deeper in the centre of the bunt than at the extreme wings, one of which, the 'boat end,' is from one to 10 fathoms deep, and the other, the 'dory end,' varies from about 7 to 15 fathoms in depth. It is made of three kinds of twine. The bailing piece, which is a section of the net occupying about 10 or 12 fathoms along the centre of the cork line, and having about the same depth as length, is made of the stoutest twine. Beneath this and composing the remainder of the bunt and extending to the bottom of the seine is a section knit of twine a size smaller. There is also a band of large twine 15 meshes in depth, extending along the cork line of the seine on either side of the 'bailing piece' to the extremity of each wing. The remainder of the net is made of smaller twine.

"'A seine 300 fathoms in length is usually about 1,000 meshed deep, both in the bunt and in the wings. The strongest twine is placed at those points where the seine is subjected to the greatest strain. On the cork line are two or three sizes of corks, the largest being placed over the 'bailing piece,' the smallest generally at the ends of the wings. The cork in the middle of the seine is much larger than the rest, and is painted or covered with canvas in order that it may be easy to find the centre of the net either night or day. To one end of the cork-line at the upper corner of the wing which is first thrown out when the seine is set, is a buoy. The seine is hung to lines which are called the hanging lines. The lead line is placed as in an ordinary seine, and is weighted with sinkers about two ounces in weight, which are attached to it at intervals varying from a few inches to several feet. The arrangement of the pursing rings and bridle is described elsewhere. In a mackerel seine of 175 fathoms the bridles are about 15 to 18 feet in length, and the rings, which weigh 1½ lbs. and are three inches in diameter, are fastened to the middle of each bridle. The middle ring is on the bottom of seine, opposite the middle cork already referred to, and is usually made of different metal from the other rings, or is larger, so that the centre of the bottom of the seine can be easily found. Small galvanized-iron blocks or pulleys are now used to a considerable extent instead of rings, and are found much better adapted for the purpose, since the purse line runs far easier through them. The purse-line extends through the rings, its centre is marked by a line tied around or tucked through its strands, but more frequently now by a brass swivel, into which the purse line is spliced, and which serves the double purpose of marking the centre of the line and preventing it from kinking.'

"Its early history is described thus: Captain E. J. Deblois of Portsmouth, Rhode Island, says:—

"'The first purse seine that was made so far as I know, was made by John Tallman, the first, and Jonathan Brownell and Christopher Barker, in the year 1886. It was 264 meshes deep and 65 fathoms long. The purse weight was 56 pounds weight, and the blocks were the common single block, and they have to reeve the end of the purse line through the blocks before they put the purse weight overboard.'

"The Minister further observes that the first seine operated north of Cape Cod was used by Captain Nathaniel Adams of Gloucester, in the schooner 'Splendid,' in the year 1850, but it was not until about 1860 that it became generally used in a form similar to the present purse seine, since which time it has undergone great improvements and its destructiveness has been much enhanced, particularly within

the past two years, by the introduction of the steam seine boat. By the adoption of these steam propellors the boats are enabled to surround the schools of fish much more readily and with wonderful rapidity, besides which advantage is taken of the steam power to purse the nets. which can be done in this manner in an incredibly short space of time.

"The Minister further observes that it thus appears that this fishing engine may be said to have reached the height of its destructiveness, and in the face of the appended extracts from reports of fishery officers, total depletion of the sea coast fisheries seems to be what must inevitably follow the continuance of its use."

(See Appendix No. 9 to this Report.)

The Legislature of the State of Maine seemed to be fully alive to the baneful effects of this destructive method of fishing, for in the year 1883, that body passed an Act for the protection of migratory fish, prohibiting the use of the purse and drag seines for taking mackerel within any bay or inlet, not more than two miles wide, under a maximum penalty of $200, (*Rev. Statutes of Maine*, '83, *sec.* 17, *c.* 40, *p.* 373) and later on, in 1885 this Act was amended to include bays three miles wide, and the extreme penalty increased to $500, making the Statute read as follows:—

"'Sec. 17. The taking of mackerel, herring, shad, porgies or menhaden, and the fishing therefor by the use of purse and drag seines is prohibited in all small bays, inlets, harbours or rivers, where any entrance to the same, or any part thereof, from land to land, is not more than three nautical miles in width, under a penalty upon the master or person in charge of such seines, or upon the owners of any vessel or seines employed in such unlawful fishing of not less than $300, or more than $500, to be recovered by indictment, or action of debt, one-fourth of the penalty to the complainant or prosecutor, and three-fourths to the county in which the proceedings are commenced, and there shall be a lien upon the vessels, steamers, boats and apparatus used in such unlawful pursuit until said penalty, with costs of prosecution is paid, but a net for meshing mackerel or porgies, if not more than 100 meshes in depth, and a net for meshing herring of not more than 170 meshes in depth, and a net for meshing shad of not more than 75 meshes in depth shall not be deemed a seine.' (*Acts and Resolves of the State of Maine*, 1885, *c.* 261, *p.* 215.)

"And the Federal Legislature of the United States recognized the necessity for some restrictive measure, if even of only a partial nature, as is shown by the following law providing against the landing or importation of mackerel so caught between the 1st of March and the 1st day of June into the United States:—

"'An Act relating to the importing and landing of mackerel caught during the spawing season.

"'Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled. That for the period of five years, from and after the 1st day of March, 1888, no mackerel, other than what is known as Spanish mackerel, caught between the 1st day of March and the 1st day of June, inclusive of each year, shall be imported into the United States or landed upon its shores. Provided, however, that nothing in this Act shall be held to apply to mackerel caught with hook-and-line from boats, and landed in said boats, or in traps and weirs connected with the shore.

"'Sec. 2. That section 4321 of the Revised Statutes is amended for the period of five years aforesaid, so as to read before the last sentence as follows:—'This license does not grant the right to fish for mackerel, other than for what is known as Spanish mackerel, between the 1st day of March and the 1st day of June, inclusive of this year.' 'Or in lieu of the foregoing there shall be inserted so much of said period of time as may remain unexpired under this Act.'"

"'Sec. 3. That the penalty for violation or attempted violation of this Act shall be forfeiture of license on the part of the vessel engaged in said violation, if a vessel of this country, and the forfeiture to the United States, according to law, of the mackerel imported or landed, or sought to be imported or landed.

"'Sec. 4. That all laws in conflict with this law are hereby repealed.' (Approved 28th February 1887.)

"Prof. Brown Goode (Sec V. Vol. I) says: 'Opposition to the purse seine from 1870 to 1882.'

"'Since the adoption of the purse seine no year has passed without a considerable amount of friction between the fishermen using this engine of wholesale destruction in the capture of mackerel, and those engaged in fishing with other forms of apparatus. Petitions to Congress and State Legislatures have been made from both sides, and in some instances laws have been passed by State Legislatures prohibiting the use of nenhaden seines, within certain specified tracts of water, such as the Chesapeake Bay. These laws, while especially antagonistic to the nenhaden fishery, were aimed chiefly at the purse seine as a means of capture and doubtless would have been equally prohibitory of mackerel fishing with purse seines, had this been attempted within the limits. * * * * In 1878, a delegation of fishermen from Portland, Me., and Gloucester, Mass., visited Washington for the purpose of securing the passage of a law prohibiting the use of purse seines in the mackerel fishery.'

"In 1877, the late Commissioner of Fisheries, Mr. Whitcher, in his annual report for that year, said: "The modes of fishing most objectionable amongst the fishermen, and not provided against by our fishery laws, are purse seines and trawls. Their use has been petitioned against from several sea-coast districts.' (*Supp. No.* 5, 10*th Ann. Rpt. Min. M. & F.*, 1877, *p. lii.*)

"On the 27th March, 1879, the late Dr. Fortin, M.P., at one time commander of the fisheries protection vessel 'La Canadienne,' in forwarding to the Department a resolution of the County Council of Gaspé, strongly urging the abolition of purse seining along the shores of the Gulf of St. Lawrence, said: 'No doubt it has been proved beyond question that those engines are too destructive to be tolerated much longer on our shores.'

"In a haul of the purse seine it frequently happens that there are enclosed say 100 barrels of fish, only a small portion of which are marketable, the remainder being thrown overboard dead, and sinking to the bottom, foul the ground and drive off the other fish.

"In evidence procured by the Department of Fisheries from 20 masters of United States' and 10 masters of Canadian vessels, 14 of the former and 9 of the the latter utterly condemned the purse seine as injurious to the fishery, and the

interests of the fishermen alike, not only from the total loss of the unmerchantable fish (which form a large proportion of the take), but from the defilement of the waters and bottom, and the consequent diversion of the schools of fish from their accustomed haunts.

"It must be remembered that while the mackerel cannot be caught by hook and line during the spawning season, since they will not bite at that time, the purse seines take them at all times. Captain John Nason, of the schooner 'Pendragon,' Gloucester, 40 years a mackerel fisher, says: 'All mackerel killed before 1st July in the Gulf are killed before spawning.'

"Captain John Staples, schooner 'Vesta,' Gloucester, 30 years a mackerel fisherman says: 'In the North Bay, before the 1st July, about two-thirds of the catch are female spawn mackerel, which of course are destroyed before spawning. Upon the least I should say that more than 100 barrels are destroyed for every barrel caught before the 25th July, in the North Bay.'

"The preponderance of the evidence by many others proved that at least half of the catch was killed before spawning.

"The effect upon the incoming schools of fishes can perhaps be appreciated, if it be remembered that the fishing fleet consists of, say 250 sail, each attended by two seine boats, in all 750 craft, large and small, manoeuvering within a distance of five miles from the shore, day and night, on an extent of 20 or 25 miles of coast, afterwards dispersing into squadrons of from 50 to 60 vessels.

"Apart from the damage to the fishing grounds by purse seines breaking up the schools of fish, the proportion of useless fish thrown overboard dead, as previously explained, with attendant deleterious results, is almost incalculable.

"The Minister desires to invite attention to the statistics of the mackerel importations in the State of Massachusetts for three decades: the first from 1850 to 1859, during which period the purse seine was not in use; the second from 1863 to 1872, ten years following the general introduction of the purse seine; the third from 1880 to 1889, after the purse seine had been continuously used for many years. (*15th Annual Report of the Boston Fish Bureau*, 1889.)

BARRELS OF MACKEREL INSPECTED.

Year.	No. 1 Grade	Total catch.
1850	88,401	242,572
1851	90,765	329,244
1852	84,030	198,120
1853	49,015	133,340
1854	30,595	135,349
1855	29,302	211,956
1856	89,333	214,312
1857	84,519	168,705
1858	75,347	131,602
1859	61,330	99,715
Total	682,637	1,864,915
Yearly average	68,263	186,491

Year.	No. 1 Grade.	Total catch.
1863	67,985	306,943
1864	103,383	274,357
1865	153,723	256,796
1866	150,332	231,696
1867	122,808	210,314
1868	93,091	180,056
1869	72,924	234,210
1870	66,046	318,521
1871	105,187	257,416
1872	71,866	181,856
Total	1,007,345	2,454,265
Yearly average	100,734	245,426

Year.	No. 1 Grade.	Total catch.
1880	20,453	243,958
1881	15,598	256,173
1882	39,045	258,382
1883	20,852	154,140
1884	22,377	283,794
1885	15,742	215,576
1886	19,574	66,042
1887	23,893	77,488
1888	14,545	50,907
1889	7,143	12,143
Total	198,222	1,618,603
Yearly average	19,822	161,860

"These figures reveal a most alarming decrease in the total cath of mackerel, and especially so in that of No. 1 grade, for during the first decade, without the assistance of this improved and destructive method of catching fish, the take was very large, being 1,864,915 barrels, or an average of 186,491, while of this quantity there was of No. 1 quality 682,637 barrels, an average of 68,263 barrels per annum.

"The next decade covers a period almost immediately following the general introduction of purse seines and, as is to be expected, shows an increased catch, the total take being 2,454,265, an average of 245,429 barrels per annum, while of No. 1 quality the catch was 1,007,345, a yearly average of 100,734 barrels. This productive state however, could not long obtain, as the fish could not withstand the enormous drain upon its marketable and immature product by the destructive purse seine.

"The last decade, which comes down to the year 1889, after about 20 or 30 years, use of purse seines, shows that notwithstanding the improvements of late years to enhance their effectiveness, a deplorable decline in the catch has taken place, for we find a total catch of only 1,618,603 barrels and an annual average of 161,860 barrels and of No. 1 Grade a total of 198,222, a yearly average of but 19,822 barrels.

SUMMARY.

Years.	Total Catch.	Yearly Average.	No. 1 Quality.	Yearly Average.
1850-59	1,864,915	185,491	682,637	68,263
1863-72	2,454,265	245,426	1,007,345	100,734
1880-89	1,618,603	161,860	198,222	19,822

"Comparing the catch of the later decade with the aid of its perfected and destructive fishing engines, with that of the first decade, with its primitive modes of capture, an annual average decline in the total catch of mackerel of 23,631 barrels, and in catch of No. 1 Grade of 48,441 barrels appears.

"While the Minister of Marine and Fisheries is not prepared to state that this decline is due solely to the use of improved fishing engines, or that some other natural or minor causes may not affect the movements of the vast mackerel schools in approaching the shores, yet he is of opinion that enough evidence has been adduced to attribute the steady decrease in the size and superior quality marketed, mainly to the destruction of small and immature fishes and the breaking up of the schools by purse seines.

"The question now being dealt with is one of paramount importance to all interested in the deep sea fisheries of the Atlantic coasts of America, and it is submitted that some concerted action is necessary towards ameliorating the evil effects of this highly improvident method of fishing.

"The Committee concurring in the above report recommend that Your Excellency be moved to forward a copy hereof to the Right Honourable the Principal Secretary of State for the Colonies for submission to Her Majesty's Government with the request that it be brought to the notice of the Government of the United States of America, with the view to obtaining some International action or Legislation looking either to the prohibition or restriction of the use of purse seines as may be deemed advisable for the preservation of the mackerel fishery.

This Department has since been advised that the Secretary of State for the United States had expressed his willingness to give the subject his careful consideration, with a view to the adoption of concerted measures to diminish the mischief complained of. I am, therefore, losing no opportunity of collecting further dada and evidence on this important question, that it may be available when the subject comes up for consideration.

The opposition to a restriction being placed on the use of these nets will, at the present time, probably be much less than it would have been up to a recent period, many of the fishermen having at last conceded the irreparable damage their use entailed, in the destruction of immense quantities of both immature and spawning fish.

"All which is respectfully submitted for Your Excellency's approval."

THE BEHRING SEA.

Although the usual number of Canadian vessels were engaged in "sealing" in the Behring Sea during the season of 1890, no seizures were made by the United States' cutters cruising therein.

The usual statutory proclamation, however, which the President is bound by law to issue "at a timely season in each year" was published.

The question of the right of the United States' Government to exercise jurisdiction outside of the territorial limit of that portion of the Behring Sea which it acquired from Russia is still the subject of diplomatic correspondence.

A complete record of this and of the negotiations since the inception of the Behring Sea difficulty has been compiled and is now in course of printing for submission to Parliament.

As the lease to the Alaskan Commercial Company expired in May, 1890, the Secretary of the United States' Treasury, in January of that year, invited tenders for the exclusive privilege of taking fur seals on the Islands of St. Paul and St. George of the Pribylov Group in the Behring Sea, commonly known as the Seal Islands for a term of twenty years from the 1st of May, 1890.

The principal difference in the proposed lease, and that held by the Alaskan Commercial Company, was the limitation of the number of seals to be annually killed, which it was provided should be under the new lease 60,000 for the first year, instead of 100,000 under the old lease, and for subquent years the number was to be fixed by the Treasury Department. There was, however, one very important difference; the lease was awarded to the "North American Commercial Company," of San Francisco, at an annual rental of $57,100, with a revenue tax or duty of $2 per seal skin, in addition $8.25 for every skin taken, instead of the terms obtaining in the old lease which were—a yearly rental of $55,000 and a royalty of $2.62 for each skin.

As the issue of the advertisement for tenders for a new lease indicated an intention on the part of the United States' authorities, regardless of the proposal of the Hon. Mr. Bayard for international action in looking to the establishment of a close season for seals in the Behring Sea, to continue the monoply of the seal industry, which had existed for the past twenty years, regardless of any close season applicable to the breeding-ground or rookeries of the seals, it was deemed urgent that the attention of Her Majesty's Government should be called to the existing facts, as it was apprehended the lease might interfere with the proposed negotiations for a close season for seals in the Behring Sea. This was done by a Minute of Council, under date 14th January, 1890, based upon a very full report of this aspect of the question.

During the year the following claims have been submitted for presentation to the Government of the United States:—

Schooner "Minnie" for compensation for loss incurred by reason of seizure in the Behring Sea, and the removal of seal skins, guns and spears in September, 1889.

Schooner "Pathfinder," for seizure and detention in Neah Bay; the vessel having been recognized as one which had been seized and escaped during the previous year.

Schooner "Triumph," for boarding, searching and warning off the Behring Sea under threat of seizure, in 1887.

SCHOONER "W. P. SAYWARD."

This vessel as the record shows was seized in the year 1887, for sealing in the Behring Sea, and was condemned to forfeiture by the District Court of Alaska.

This case was taken on appeal by the owners of the vessel to the Supreme Court of the United States. The Canadian Government having undertaken on behalf of the owners the further prosecution of the case, decided to abandon the appeal and with the concurrence of the Imperial Government moved the Supreme Court of the United States for a writ of prohibition directed to the Alaska Court, forbidding it further to proceed in the matter, upon the ground that the offence, if any, was committed beyond the territorial jurisdiction of the municipal courts of the United States.

That course was adopted, and on the 2nd February the Supreme Court of the United States decided to give the Government an opportunity of arguing the matter fully, and such argument will be had on the 13th April next.

CONCLUSION.

It will be seen from the foregoing pages that the work of the Department is rapidly extending, that new and important regulations affecting the fishing industries of the Dominion have been adopted, while others are engaging the Department's earnest enquiry.

The reports of several Inspectors and the statistics of the catch which with other matter not now available will, as stated, form the subject of a Supplementary Report. I cannot at this moment write definitely as to the fishing operations of the year, but sufficient data is at hand to reveal a fairly successful season's fishing.

It is gratifying to be able to record an increasing appreciation of the protective regulations regarding the fisheries on the part of those in whose interests they were and are especially designed.

I have the honour to be, Sir,
Your obedient servant,
JOHN TILTON,
Deputy Minister of Fisheries.

PART I.

APPENDICES.

APPENDIX No. 1.

SCHEDULE of Fishery Officers in the Dominion of Canada for the Year 1890.

PROVINCE OF ONTARIO.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Thomas A. Keefer	Overseer	Port Arthur	About 270 miles of the waters along the north shore of Lake Superior, extending from Pigeon River to Slate Island.
Harry Wilson	do	Jackfish Bay	That portion of the waters of Lake Superior, in the neighborhood of Jackfish Bay.
O. O'Donnell	do	Mamainse	That portion of the waters of Lake Superior, in the neighborhood of Mamainse.
Jos. Wilson	do	Sault Ste. Marie	That portion of the waters of Lake Superior, extending from Sault Ste. Marie to the Slate Islands.
A. Brinkman	do	Manitowaning	That portion of the waters of Georgian Bay, extending from Manitowaning to and including, South Bay, also the waters surrounding Club, Lonely, Fitz, William and other Islands in the neighborhood of Manitoulin Island.
J. K. McDonald	do	Toronto	Lake Kagewong, Manitoulin Island.
Isaac Turner	do	Little Current	That portion of the waters of the North Channel of Lake Huron, in the vicinity of Little Current.
Robert Boyter	do	Gore Bay	That portion of the waters of the North Channel of the Lake Huron, in the vicinity of Gore Bay, Manitoulin Island.
Chas. Gauthier	do	Algoma Mills	That portion of the waters of the North Channel of Lake Huron, in the vicinity of Algoma Mills.
Frank Prout	do	Bruce Mines	That portion of the waters of the North Channel of Lake Huron, in the vicinity of Bruce Mines.
John Marks	do	Marksville	That portion of the waters adjoining St. Joseph and other Islands, in the North Channel of Lake Huron.
D. Cameron	do	Killarney	That portion of the waters of Georgian Bay, extending from Collin's Inlet to Whitefish River, including Squaw Island and the surrounding waters.
F. G. M. Fraser	do	Victoria Harbour	That portion of the waters of Georgian Bay, extending from Point Marks to Collin's Inlet, with islands opposite, and including the mouths of Severn and Muskoka Rivers.
John Donaldson	do	Collingwood	That portion of the waters of Georgian Bay, extending from Point Boucher to Point Marks, including Christian, Beckwith and other Islands and the surrounding waters; also Nottawasaga River.
G. S. Miller	do	Owen Sound	That portion of the waters of Georgian Bay, extending from Colpoy's Bay to Point Boucher.
John Shackleton	do	Wiarton	That portion of the waters of Georgian Bay, extending from Cape Hurd to and including Colpoy's Bay, also the waters surrounding White Cloud, Griffith's and Hay Islands.
John Hoar	do	Lafontaine	About 18 miles of the waters of Georgian Bay, around Christian Island.

SCHEDULE of Fishery Officers, &c.—*Continued*,

PROVINCE OF ONTARIO—*Continued*.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
R. H. Murray	Overseer	Allenford	About 70 miles of the waters of Lake Huron, from Cape Hurd to Southampton, beside the inland waters of the County of Bruce, south of division line between Amable and Albermarle, comprised within an area of about 800 square miles.
H. W. Ball	do	Goderich	About 60 miles of the waters of Lake Huron, from Southampton to Goderich.
H. B. Quarry	do	Parkhill	About 65 miles of the waters of Lake Huron, extending from Goderich to Blue Point.
J. C. Pollock	do	Forest	About 45 miles of the waters of Lake Huron and St. Clair River, extending from Blue Point, on Lake Huron, to Baby's Point in River St. Clair.
C. W. Raymond	do	Mitchell's Bay	About 30 miles of the waters of Lake St. Clair, from Little Lake to its head.
A. Quenneville	Warden	Stony Point	About 10 miles of the waters of Lake St. Clair, from division line between Dover, East and West, to Stony Point.
Joseph Boismier	Overseer	Sandwich	About 20 miles of the waters of Lake St. Clair, from Stony Point to Detroit River.
Wm. Prosser	do	Leamington	About 50 miles of the waters of Lake Erie, from the mouth of Detroit River to Point Pelee.
David Girardin	do	Point Pelee	About 50 miles of the waters of Lake Erie, around Point Pelee Island and adjacent islands.
Horace Bartlett	Warden	North Harbour Island.	About 20 miles of the waters of Lake Erie, around North Harbour and Middle Sister Islands.
John McMichael	Overseer	Blenheim	About 110 miles of the waters of Lake Erie, fronting on the Counties of Kent and Elgin.
David Sharp	do	Port Ryerse	About 70 miles of the waters of Lake Erie, fronting on the Counties of Norfolk and part of Haldimand as far as South Cayuga.
W. A. McRae	do	Dunnville	About 10 miles of the waters of Lake Erie, from Cayuga to Moulton Bay and Grand River (30 miles), from mouth to Caledonia.
Charles W. Evans	do	Cayuga	The waters of Grand River, from the Division Line between North Cayuga and Canborough, on the east, to Caledonia, on the west.
Peter Price	do	St. Williams	About 30 miles of the waters of Lake Erie, around Long Point Island.
Fred. Kerr	do	Hamilton	About 50 miles of the waters of Lake Ontario, from Brant House, Burlington Beach, to Niagara, including the Niagara River, 50 miles ; in all, 100 miles.
Wm. Sargent	do	Bronte	About 20 miles of the waters of Lake Ontario, extending from Port Credit to Burlington Beach, at Brant House.
Wm. Helliwell	do	Highland Creek	About 26 miles of the waters of Lake Ontario fronting on the County of York.
Chas. Gilchrist	do	Port Hope	About 40 miles of the waters of Lake Ontario fronting on the County of Northumberland. Together with Rice Lake and tributaries, about 60 square miles of water.
W. P. Clarke	do	Belleville	Bay of Quinté, comprising about 80 miles of coast line of Counties of Prince Edward and Hastings, from Carrying Place to opposite Mill Point.
Joseph Redmond	do	Picton	About 90 miles of the waters of Lake Ontario fronting on the County of Prince Edward.
A. D. Sills	do	Napanee	About 35 miles of the waters of Lake Ontario fronting on the Counties of Lennox and Addington, and upper part of Amherst Island ; also the inland waters of the Counties of Lennox and Addington, comprised within an area of about 1,600 square miles.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
R. R. Finkle	Overseer	Bath	About 25 miles of the waters of Lake Ontario fronting on the Township of Earnestown in the Counties of Lennox and Addington, and the lower part of Amherst Island.
A. H. Crosby	do	Forest	That portion of the waters of Bay of Quinté from Three Brothers' Island, near Kingston, to Trenton, at the head of the Bay.
Peter Kiel	do	Wolfe Island	About 60 miles of the waters of Lake Ontario around Wolfe, Simcoe, Horseshoe and Pigeon Islands.
Thomas Merritt	do	Kingston	About 20 miles of the waters of Lake Ontario fronting on the Township of Pittsburgh and Kingston, County Frontenac, including part of Bay of Quinté and River St. Lawrence.
John Cox	do	Howe Island	About 16 miles of the waters of Lake Ontario and River St. Lawrence, around Howe Island.
Nassau Acton	do	Gananoque	About 6 miles of the waters of the River St. Lawrence, from Howe Island to Jack Straw Lighthouse, together with the waters around Admiralty group of Islands; also, Gananoque River, comprising 10 miles inland waters.
J. G. Wallace	Warden	Ivy Lea	About 10 miles of the waters of the River St. Lawrence, extending from Jack Straw Lighthouse to Rockport, including the islands therein.
Henry Hunt	do	Rockport	About — miles of the waters of River St. Lawrence around LaRue's Island.
John H. Davis	do	Gananoque	About — miles of the waters of the River St. Lawrence, extending from Sheriff's Point to head of Grenadier Island.
Wm. Pool	Overseer	Rockport	About 32 miles of the waters of the River St. Lawrence, extending from Rockport to Prescott.
Sydney Pattison	Warden	do	About 32 miles of the waters of the River St. Lawrence from Gananoque to Brockville.
John Mooney	Overseer	Maitland	About 60 miles of the waters of the River St. Lawrence from Brockville to Cornwall.
Robt. P. Boyd	do	Lyn	About 6 miles of the waters of the River St. Lawrence, extending 3 miles above and 3 miles below Cole's Shoal Lighthouse.
T. McGarity	do	Cornwall	About 40 miles of the waters of the River St. Lawrence, fronting on the Counties of Stormont and Glengarry.
Pierre St. Pierre	do	Point Fortune	About 40 miles of the waters of the Ottawa River extending from Point Fortune to Wendover, in the County of Prescott.
Olivier Miron	do	Alfred	The waters of the South Nation River, County of Prescott, comprising about 50 miles of inland waters.
W. W. Boucher	do	South March	About 60 miles of the waters of the Ottawa River, fronting on the Counties of Russell and Carleton.
John Grant	do	Forester's Falls	About 55 miles of the Ottawa River, fronting on the County of Renfrew from the foot of Upper Allumette Lake to Des Joachims, together with about 75 miles of inland waters, comprising Petewawa River and tributaries.
Archibald Acheson	do	Westmeath	About 25 miles of the Ottawa River, comprising Lower Allumette and Coulonge Lakes.
J. S. Richardson	do	Sturgeon Falls	The waters of Lake Nipissing, comprising about 160 miles, together with the Mattawa River, about 36 miles, and French River and tributaries, about 100 miles of inland waters.
George Thompson	do	Sudbury	Ramsay's Lake and other waters in the neighbourhood of Sudbury, Algoma District.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
.....	Overseer....	Bracebridge	Inland waters of the Townships of Watt, Stephenson, Brunnel, Franklin, Monk, McAulay, McLean, Ridout, Muskoka, Draper, Oakley, Morrison and Ryde, in the District of Muskoka, comprised within an area of about 1,000 square miles.
Geo. R. Steele.....	do	Lorimer Lake.....	The inland waters of the Townships of Cowper, Foley, Christie, McDougall, McKellar, Ferguson, Carling, Shawanaga, Burpee, Hagerman, Brown and Wilson, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles.
J. G. Rumsey.....	do	Huntsville	The inland waters of the Townships of Chaffey, Cardwell, Stisted, Sinclair, Bethune, Monteith, McMurrich, Perry, Spence, Ryerson, Armour and Proudfoot, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles.
Wm. Lockhart.....	do	Denville	The inland waters of the Townships of Croft, Chapman, Strong, Jolly, Ferries, Lount, Machar, Laurier, Mills, Pringle, Gurd and Himsworth, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles.
Henry W. Gill.....	do	Ufford	Lakes Joseph, Rosseau, Three Miles Lakes, Skelton Lake and Muskoka Lake, and all waters west of said lakes to Georgian Bay, and from River Severn, inclusive, to the northern boundary of the Townships of Humphrey and Conger in the County of Simcoe and Districts of Muskoka and Parry Sound.
L. S. Sanders.....	do	Barrie.....	About 110 miles of the waters of the north shore of Lake Simcoe and its tributaries, Couchiching and Holland Rivers.
Wm. Hastings.....	do	Roach's Point.....	About 30 miles of the waters of the south shore of Lake Simcoe from Cook's Bay to Beaverton.
Fred. Webber.....	do	Orillia.....	About 40 miles of the waters of Lake Couchiching and Severn River in the County of Simcoe.
Wm. McDermot.....	do	Beeton	The inland waters of the South Riding of the County of Simcoe, comprised within an area of about 900 square miles.
H. McFayden	do	Durham	The head waters of Saugeen River and tributaries, comprising an area of about 1,000 square miles.
Patrick McCarron.....	do	Wallaceburg	The waters of Sydenham River and tributaries, comprising about 65 miles.
J. B. Moody.....	do	Waubuno.....	The north branch of Sydenham River, from junction with main river to its sources, comprising about 20 miles.
Peter McCann.....	do	London.	About 65 miles of the River Thames, from Wardsville to London.
John Crotty.....	do	Bothwell	About 25 miles of the River Thames, extending from Wardsville to Lewisville.
Timothy McQueen	do	Chatham.....	About 25 miles of the River Thames, from Lewisville to its mouth.
W. P. Croome.....	do	Brantford.....	About 150 miles of the waters of the Grand River and its tributaries, from Brantford upwards.
W. B. Jelly.....	do	Bowling Green....	The inland waters of the North Riding of the County of Wellington, comprised within an area of about 600 square miles.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Andrew Hughson	Overseer	Orangeville	About 25 miles of the waters of River Credit, extending from Orangeville to Norval; together with the inland waters of the Townships of Mono, East Garafraxa, Amaranth, Albion and Luther, comprised within an area of about 500 square miles.
Robert Stewart	do	Claude	The inland waters of the County of Cardwell, comprised within an area of about 400 square miles.
Wellington Hull	do	Erin	The inland waters of the Townships of Eramosa, Erin, Caledon and Esquessing, comprised within an area of about 400 square miles.
Alex. Blakely	do	Port Credit	About 1½ miles of the waters of the River Credit —from Norval to its mouth, in the County of Peel.
Nelson Simmons	do	Meyersburg	The waters of Trent River, in the Counties of Northumberland and Hastings, comprising about 80 miles.
J. R. Graham	do	Fenelon Falls	The inland waters of the North Riding of the County of Victoria, lying north of Fenelon Falls, and comprised within an area of about 800 square miles.
G. B. McDermot	do	Port Perry	About 22 miles of the waters of Lake Ontario, fronting on the County of Ontario, together with Lake Scugog, including Lindsay and Scugog Rivers, in the Counties of Durham, Victoria and Ontario, about 50 miles.
J. C. Bowen	do	Marmora	Crow Lake, Belmont Lake and Crow River, in the Counties of Hastings and Peterboro'.
Geo. W. Fitzgerald	do	Lakefield	The inland waters of the County of Peterboro', within the Townships of Harvey, Burleigh, Dummer, Douro, Smith and Ennismore.
David Breeze	do	Peterboro'	Otonabee River, extending from Peterboro' to Rice Lake, in the County of Peterboro'.
Wm. Gainforth	do	Haliburton	The waters of Gull and Burnt Rivers and tributaries, together with Drag, Eagle, Moose, Redstone, Crooked and other lakes, lying within the East Riding of the County of Peterboro', and comprised within an area of about 400 square miles.
B. H. Sweet	do	Bancroft	The inland waters of the Townships of Wollaston, Limerick, Cashel, Farraday, Dungannon, Mayo, Herschel, Monteagle, Carlow, McClure, Wicklow, Bangor, in the County of Hastings, and comprised within an area of about 1,000 square miles.
H. R. Purcell	do	Colebrook	The inland waters of the Townships of Camden, Portland, Loughboro', Sheffield and Kennebec, in the Counties of Addington and Frontenac, comprised within an area of about 500 square miles.
Robt. Gilbert	do	Ompah	The inland waters of the Townships of Palmerston, Clarendon, North Canonto, South Canonto and Miller, in the County of Frontenac, and comprised within an area of about 500 square miles.
George Lake	do	Tichbourne	The inland waters of the Townships of Bedford, Hinchinbrooke, Olden and Oso, in the County of Frontenac, and comprised within an area of about 400 square miles.
Samuel Boddy	do	Athens	Upper Beverley Lake, Bass Lake, Little Lake, Wiltse Lake and Mud Lake, in the County of Leeds.
David Edgar	do	Lyndhurst	Lower Beverley Lake and tributaries to Morton and Lyndhurst and Griffin Lake, in the County of Leeds.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
John Moorehead	Overseer	Lyndhurst	From Lyndhurst to the divisions line between Leeds and Lansdowne, in the County of Leeds.
James Greer	do	Warburton	Gananoque River from Marble Rock to division line between the Township of Leeds and Lansdowne, including South Gananoque and Round Lake and Cherry Pound, in the County of Leeds.
Wm. Hicks	do	Athens	The waters of Charleston Lake, in the County of Leeds.
Geo. Jeacle	do	Wesport	The waters of Rideau, Upper Rideau, Openicon, Otty, and neighbouring lakes, in the County of Leeds, comprised within an area of about 200 square miles.
John Murphy	do	Perth	The inland waters of the South Riding of the County of Lanark from the narrows between Upper and Lower Rideau Lakes to Smith's Falls, comprising about 25 miles.
Eph. Deacon	do	Bolingbroke	The waters of River Tay and tributaries and Fall Bay River, in the County of Lanark comprising about 35 miles.
Alexander Wilson	do	Carleton Place	About 60 miles of the waters of Mississippi River and Lake in the County of Lanark.
.....	do	.....	Rideau River and tributaries from Ottawa to Burritt's Rapids, including Jack River, in the County of Carleton, comprising 55 miles.
.....	do	Braeside	The waters of Bonnechère River and lakes in the County of Renfrew, comprising about 45 miles.
M. L. Russell	do	Renfrew	The waters of Bonnechère River and tributaries, in the County of Renfrew, comprising about 50 miles.
Hugh Gallagher	do	Sebastapol	The inland waters of Townships Sebastopol, Radcliffe, Lyndoch and Gratton, in the County of Renfrew, comprised within an area of about 400 square miles.
.....	do	Eganville	The waters of Mink and Doré Lakes in the County of Renfrew, comprising within an area of about 100 square miles.
Geo. Douglas	do	Snake River	The waters of Muskrat Lake and Snake River, in the County of Renfrew, comprised about 25 miles.
Joseph Bélanger	do	High Falls	The waters of Calabogie Lake and the inland waters of the Township of Bagot, County of Renfrew, comprised within an area of about 100 square miles.
R. J. N. Pither	do	Rat Portage	Lake of the Woods. (Indian Agent.)
Jas. McCracken	do	Coutchiching	Rainy Lake and Lake Seul. do
J. McIntyre	do	Fort William	Eagle Lake. do
J. P. Donelly	do	Port Arthur	Nepigon River. do

PROVINCE OF QUEBEC—TIDAL DIVISIONS—SOUTH SHORE.

Wm. Wakeham	Officer in charge of the Fishery Protection Str. "La Canadienne."	Gaspé Basin	Lower St. Lawrence River and Gulf

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—TIDAL DIVISIONS—SOUTH SHORE.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
J. A. Verge	Overseer	Cross Point	The estuary division of the River Restigouche, extending from Point Maguasha to Head of Tide, on the Quebec side, and from Dalhousie to Head of Tide on the New Brunswick side, comprising about 60 miles.
Pierre Cyr	do	Nouvelle	About 35 miles of the waters of Bay Chaleurs, extending along the coast from Maguasha to Grand Cascapedia River, including the estuary thereof.
John Smith	do	New Carlisle	About 40 miles of the waters of Bay Chaleurs, extending along the coast from the mouth of Grand Cascapedia River to Paspebiac.
John Phelan	do	Port Daniel	About 30 miles of the waters of Bay Chaleurs, extending along the coast from Paspebiac to Point Macquereau.
Henry Jones	do	Little River West	That portion of the waters of the County of Gaspé from corner of the Beach to Point Macquereau, including Bonaventure Island, Little Pabos, Grand Pabos and Grand Rivers.
Geo. F. Annette	do	Peninsula, Gaspé	That portion of the waters of the County of Gaspé from Cape Rosier to corner of the Beach, including Dartmouth, York, St. John and Malbaie Rivers.
Ant. Chevrier	do	Amherst	About 100 miles of the waters of the Gulf of St. Lawrence around the Magdalen Islands.
Joseph Lemieux	do	Montlouis	About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Gaspé, and extending from Cape Rosiers to Mountlouis.
Jos. I. Letourneau	do	Ste. Anne des Monts.	About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Gaspé, and extending from River Ste. Anne des Monts to Cap Chatte.
Johnny Joncas	do	Matane	About 54 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from Cap Chatte to River Blanche; together with the River Matane, comprising about 12 miles of inland waters.
L. E. Grondin	do	Rimouski	About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from River Blanche to Rimouski.
H. Martin	do	do	About 35 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from Rimouski to the division line between the Counties of Rimouski and Temiscouata.
Nap. Levesque	do	Isle Verte	About 30 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Temiscouata.
Xavier Pelletier	do	Ste. Anne de la Pocatière.	About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Kamouraska.
Eug. Pelletier	do	St. Roch des Aulnais.	About 70 miles of the waters of the south shore of the River St. Lawrence, fronting on the Counties of L'Islet, Montmagny, Bellechasse and Lévis, extending from Ste. Anne de la Pocatière to Point Lévis.
L. P. Huot	do	St. Roch de Québec	About 50 miles of the waters of the north and south shores of the River St. Lawrence around the Island of Orleans.
U. Bhéreur	do	Malbaie	About 60 miles of the waters of the north shore of River St. Lawrence, fronting on the County of Charlevoix, and extending from River du Gouffre to the division line between the Counties of Charlevoix and Saguenay.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—TIDAL DIVISIONS—NORTH SHORE.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
L. N. Catellier	Overseer	Tadoussac	About 80 miles of the waters of the north shore of the River St. Lawrence, fronting on the County of Saguenay and extending from the division line between the Counties of Charlevoix and Saguenay to Bersimis; and the tidal waters of the River Saguenay from its mouth to Chicoutimi, comprising 70 miles; in all, 150 miles.
Jos. Boily	Warden	Milles Vaches	About 45 miles of the waters of the north shore of the River St. Lawrence, fronting on the County of Saguenay and extending from Escoumains to Bersimis.
N. A. Comeau	Overseer	Godbout	About 115 miles of the waters of the north shore of the River and Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Manicouagan to Baie des Rochers, including the estuaries of Godbout, Trinity and Penticost Rivers.
T. Mignault	do	Montmagny	About 75 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Baie des Rochers to Point St. Charles, including the estuaries of Marguerite and Moisie Rivers.
Geo. L. Duguay	do	Murray Bay	About 105 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Point St. Charles to Esquimalt Point, including the estuaries of the St. John and Mingan Rivers.
Geo. Gaudin	do	Natashquan	About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Esquimalt Point to Natashquan River, including the estuaries of the Rivers Agwanus, Nabissippi and Natashquan.
G. Mathurin	do	Montmagny	About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from River Natashquan to Cape Whittle, including the estuaries of Washeecoutai, Kegashca, Musquarro and Olomonosheeboo Rivers.
Jean Legouvé	Warden	Pacachoo	About 140 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Cape Whittle to Checatica.
W. H. Whitely	do	Bonne Espérance	About 65 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Checatica to Blanc Sablon, the boundary line between Quebec and Newfoundland, on the coast of Labrador, including the estuary of the Esquimault River.

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS.

Alf. Blais	Overseer	Causapscal	About 30 miles of the waters of Lake and River Metapedia, in the County of Metapedia, from head of Lake to Causapscal.
George Gagnon	Warden	St. Hubert	The inland waters of the County of Temiscouata, comprised within an area of about 2,000 square miles.
Henri Coté	do	Baie St. Paul	Lakes in rear of Murray Bay and Bay St. Paul.
Edward Martin	do	do	do do
Jos. Simard	do	Ste. Agnes	do do

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
J. F. Picotin	Warden	Drummondville	About 60 miles of the River St. Francis, in the Counties of Yamaska and Drummond, extending from its mouth to Richmond.
N. A. Beach	Overseer	Georgeville	The waters of Lake Memphremagog, in the Counties of Brome and Stanstead, comprising about 50 miles.
P. C. Bourke	do	Somerset	The inland waters of the County of Megantic, comprised within an area of 850 square miles.
J. Laberge	Warden	Chateauguay	About 40 miles of the waters of the River St. Lawrence, fronting on the County of Chateauguay, including Chateauguay River.
John Kelly	Overseer	Beauharnois	About 50 miles of the waters of River St. Lawrence, fronting on the Counties of Beauharnois and Huntingdon ; together with about 35 miles of the waters of Chateauguay and Trout Rivers.
J. O. Dion	do	Chambly	About 42 miles of the Richelieu River, extending from Sorel to Richelieu Village.
J. B. Chevalier	do	Iberville	About 30 miles of the waters of Richelieu River, extending from St. John to Lake Champlain.
P. E. Luke	do	Philipsburg	About 15 miles of the waters of Missisquoi Bay and Pike River, in the County of Missisquoi.
P. W. Nagle	do	Sherbrooke	The inland waters of the County of Stanstead, comprised within an area of about 540 square miles.
Joel Shurtleff	do	Compton	The inland waters of the County of Compton, comprised within an area of about 1,600 square miles.
A. L. Darche	do	Sherbrooke	About 10 miles of the waters of Lake Megantic, in the County of Megantic.
J. B. McDonald	do	Echo Vale	About 10 miles of the waters of Lake Megantic, in the County of Megantic.
W. G. Greene	do	Brome Lake	Brome Lake.
John McCaw	do	Sherbrooke	Lakes in Counties of Megantic aud Wolfe.
V. Veilleux	Warden	St. EphremdeTring	The inland waters of the County of Beauce, comprised within an area of about 1,600 square miles.
Jos. Lambert	Overseer	Three Rivers	About 25 miles of the River St. Lawrence and Lake St. Peter, fronting on the County of St. Maurice.
Denis Shooner	do	St. François du Lac	That portion of Lake St. Peter fronting on the County of Yamaska and the River St. Francis within the limits of the said county.
Geo. Boisvert	do	Bècancour	About 36 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the County of Nicolet.
Jos. Gingras	do	Rivière David	About 30 miles of the waters of Yamaska River, in the Counties of Yamaska and St. Hyacinthe.
Joseph Charbonneau	do	St. Césaire	Yamaska River and its tributaries from West Farnham to St. Hughes, including Black River.
J. A. Grant	do	Louiseville	About 35 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the Counties of Maskinongé and Berthier, including the islands in front.
Jos. Boivin	do	River Beaudet	About 20 miles of the waters of the River St. Lawrence, fronting on the County of Soulanges, and extending from Point Beaudet to Coteau Landing.
Narcisse Lavallée	Warden	Sorel	That portion of the waters of the River St. Lawrence fronting on the County of Richelieu, including the islands therein.
John Morris	Overseer	St. Lambert	About 50 miles of the waters of the River St. Lawrence, fronting on the Counties of Laprairie, Chambly and Verchères.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
André Robert	Overseer	Lachine	About 15 miles of the waters of the River St. Lawrence, fronting on the County of Jacques Cartier.
Julien Montpetit	do	Isle Perrot	About 15 miles of the waters of the River St. Lawrence, surrounding Isle Perrot.
Jos. Lauzon	do	Terrebonne	The Rivers Jesus and Des Prairies, comprising about 50 miles.
Jos. Filiatrault	do	Ste. Adèle	The inland waters of the Townships of Morin and Beresford, in Terrebonne and Wolfe Counties, and de Salaberry and Grandison, in Argenteuil County, comprised within an area of about 500 square miles.
Toussaint Cloutier	do	Piedmont	The inland waters of the Townships of Abercrombie, Wexford and Kilkenny, in Terrebonne and Montcalm Counties, comprised within an area of about 300 square miles.
R. W. Jones	do	St. Andrews	About 15 miles of the waters of the north side of the Ottawa River, extending from Oka to Carillon.
Theo. Sabourin	do	Rigaud	About 30 miles of the waters of the south side of the Ottawa River, extending from Cascades to Point Fortune.
Pierre St. Pierre	do	Point Fortune	About 40 miles of the waters of the Ottawa River, extending from Calumet to Carillon.
Jos. Marion	do	Hull	The waters of the Ottawa River, fronting on the County of Ottawa, comprising about 75 miles.
Ed. Mohr	do	South Onslow	The waters of the Ottawa River, fronting on the County of Pontiac, extending from the division line between the Counties of Ottawa and Pontiac to Fort Coulonge, and comprising about 50 miles.
J. T. Coghlan	do	Chapeau	The waters of the Ottawa River, fronting on the County of Pontiac, extending from Fort Coulonge to Des Joachims, and comprising about 75 miles.
Robt. Joynt	Warden	Joynt	The inland waters of the Townships of Masham, in the County of Ottawa, including Bernard Lake, comprised within an area of about 90 square miles.
Emiel Weisener	Overseer	Blanche	The waters of the Townships of Mulgrave and Lathbury, Ottawa County.

PROVINCE OF NOVA SCOTIA.

A. C. Bertram	Inspector of Fisheries.	North Sydney	District No. 1, comprising the Island of Cape Breton.
Robert Hockin	do	Pictou	District No. 2, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants.
J. R. Kinney	do	Yarmouth	District No. 3, comprising the Counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's.
		Annapolis County.	
Bailey, W. M.	Overseer	Round Hill	The County of Annapolis.
		Antigonish County.	
Aymer, J. R	Warden	Pomquet Forks, Antigonish	From mouth of harbour to Forks; from thence on the Pomquet River to V. Chisholm's Mills, and from Forks, on the Black River, to Falls.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Antigonish County —Continued.	
Cameron, Lochlin	Warden	Upp'r South River, Antigonish	From McWilliam's Bridge to head of lake.
Chisholm, Hugh	do	Lower South River, Antigonish	From Antigonish Harbour to McWilliam's, or St. Andrew's Bridge.
Chisholm, Donald	do	Salt Springs, Antigonish	From Trotter's Mill Brook to W. Thompson's Dam.
Dexter, Jno	do	Antigonish	From Antigonish Harbour (foot of marsh) to Trotter's Mill Brook; thence up said brook to Trotter's Mill, including both branches of West River and Bailey's Brook.
Fraser, Duncan	do	St. Joseph	From Pinkeytown Bridge to Stewart's Mills.
Macadam, Alex	do	West River	From Thompson's Dam to Addington Forks Bridge.
McDonald, John	Overseer	Doctor's Brook	Antigonish County.
McDougall, Arch'd	Warden	McNair's Cove, Cape George	From John McDonald (Bun's) Cove, north side of Cape George, to Crebbing Head, St. George's Bay.
Randall, Albert	do	Bayfield	From shore to Lake.
		Cape Breton County.	
Barrington, York	Overseer	Sydney Mines	North of East Bay to Head of Sydney River, including part of Boularderie Island.
Burke, William	do	Main-à-Dieu	Main-à-Dieu and Mira Bay.
Burke, Wm	Warden	Burk's Bridge, Mira River	Mira Bridge and Trout Brook.
Curry, James N.	do	Sydney Forks	Sydney River and Forks.
Howie, Donald	do	do	do do
Fleming, Michael	do	Little Bras d'Or	Little Bras d'Or District.
Keefe, P.	do	Lingan	North-West Brook, Grand Lake and tributaries.
Morrison, Angus	do	Marion Bridge, Mira	Marion Bridge, Mira.
McAdam, Allan	do	Eskasoni	Eskasoni.
McCormack, Donald	do	Leitche's Creek	Leitche's Creek and George's River.
McDonald, Alex	Overseer	East Bay	South of East Bay to Salmon River.
McDonald, Archibald	Warden	Ball's Creek	Ball's Creek.
McEachen, Jno	do	Grand Mira, North	Salmon River.
McLean, Alex	do	Boisdale	Mill Brook.
McLellan, M	do	Rory Brack's Brook	Rory Brack's Brook.
McNeil, D. J.	do	Benacadie River	Benacadie River and Lake.
Quinan, Francis	Overseer	Sydney	From Low Point to south head of Cow Bay, and north side of Mira Bay, including Salmon and Sydney Rivers.
		Colchester County.	
Corbett, H	Warden	Five Islands	Harrington and North Rivers.
Davison, J. W.	Overseer	Upper Economy	Colchester County, Western Division.
Frame, Samuel	Warden	Shubenacadie Riv.	Shubenacadie River and Gay's River.
Fulton, George	do	Stewiacke River, Brookfield	Stewiacke River (upper portion).
Fulton, R. K.	do	Folly Village	DeBert River.
Fulmer, Jesse	do	Five Islands	East and Bass Rivers.
Gass, H.	Overseer	Tatamagouche	Northern Divison, County Colchester, comprising Tatamagouche Bay, French and Waugh's Rivers.
Johnson, A. O. B.	Warden	Middle Stewiacke	Lower Stewiacke River.
Johnson, T.	do	Salmon Riv., Truro	Salmon River.
Moore, George	do	Economy	Economy River.
Murray, Math. G.	do	Truro	Salmon River.

SCHEDULE of the Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Colchester County—Continued.	
McKay, Dan	Warden	TatamagoucheRiv.	Waugh's River.
Pollock, R. J	Overseer	Lower Stewiacke	Stewiacke River (lower portion).
Rutherford, Ed	Warden	Stewaicke	Stewiacke River.
Urquhart, Hy	do	Folly Village	Folly River.
		Cumberland County.	
Fowler, Elijah	Overseer	Parrsboro'	Cumberland County, Western Division, including all streams flowing into the Bay of Fundy.
Gilroy, Geo. W	do	Oxford	Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland.
Harrison, Moses	Warden	Maccan	Maccan River.
Jenks, Frs. L	do	Parrsboro'	Parrsboro' Head.
Logan, Isaac	do	Amherst Point	Laplanche and Nappan Rivers.
Murphy, Wm	Overseer	Wallace	Wallace River.
McPherson, Samuel	Warden	Pugwash River	Pugwash River.
Porter, Jos	do	River Herbert	River Herbert.
Smith, Sydney	do	Advocate Harbour	Apple River.
Smith, Thos. R	do	Shinimicas River	Shinimicas River.
Taggart, Pat	Overseer	Pugwash	Smelt and oyster fisheries at Pugwash.
Wills, Alex. M	Warden	Moose River	Moose and Harrington Rivers.
		Digby County.	
Collins, J. A	Overseer	Westport	Western Division of Digby County, comprising the waters of St. Mary's Bay. Long and Brier Islands.
J. W. Cosseboom	do	Roseway	Eastern Division of Digby County, comprising the waters of Digby County, except those of St. Mary's Bay, and around Long and Brier Islands.
Journey, Robt	Warden	Weymouth	Sissiboo River.
McKay, Lochlin	do	Barton	St. Mary's Bay.
Potter, Chas T.	do	Joggins' River	Joggins River to Bear River.
		Guysboro' County.	
Bruce, J. R	Warden	Guysboro'	From mouth Clam Harbour River to Upper Falls.
Cameron, Angus	do	East River	East River, St. Mary's.
Cameron, D., sen	do	Upper Caledonia	West River, St. Mary's, from Wallace's Bridge to head of River.
Cross, John	do	Indian River	Indian River, from mouth to source, District of St. Mary's.
Gunn, Donald	do	Cross Roads	From mouth of Scott's Place, to Country Harbour Lake, including Gunn's Brook, from Main River to Hurley's Lake.
Henderson, Jas	do	Isaac Harbour	Isaac Harbour and River.
Hudson, Samuel (Lewisson)	do	Country Harbour	Country Harbour and River, from Bridge at Narrows to Mouth.
Jones, John	do	Mouth of Salmon River	Mouth of Salmon River.
Jordan, Wm	do	Glenelg	St. Mary's River, extending from Alex. Ross' (above still water) to Hugh Halters', on the West River.
Kenny, Chas	do	Salmon Riv., West Branch Guysboro'	From foot of Neil's Lake to Beaver Dam Lake, inclusive, and all the lakes through which it passes.
Manson, Alex.	do	Lochaber Lakes	St. Mary's River, from Wallace's Lake to Fischer's Mill Dam.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Guysboro' County —Con.	
Mattie Frederick	Warden	Tracadie, County of Antigonish	Tracadie River to Counties of Guysboro' and Antigonish.
Munroe, W. M.	do	Cole Harbour	Cole Harbour River.
McDonald, Wm.	do	Stillwater	St. Mary's River.
McKay, Robt.	do	Guysborough, Intervale	From head of tide to head of Intervale, on the North Branch, and to Cameron's Mill, on the Valley Branch.
McKeen, Thos.	do	Melrose	From Forks to County Line, including McQueen's Mill and Brook to Lake.
McEllum, Jas.	do	Salmon River	From Graham's West Line to foot of Neil's Lake, including North Branch and Lake.
McGrath, Adam	do	Cross Roads, St. Mary's	From junction of Antigonish Branch, St. Mary's River, to the head of Two Mile Lake.
McQuarrie, Allan	Overseer	Sherbrooke	District of St. Mary.
Pride, Wm.	Warden	Sherbrooke, St. Mary's	From mouth of St. Mary's River to Sinclair Point, including stream from Wine Harbor to Lake.
Sinclair, Robt.	do	Goshen	Eight Island Lake, from Sinclair's Mill to head waters.
Smith, J. L.	do	Cross Roads	From Cross Road Bridge, County Harbour River to Eight Island Lake.
Smith, J. P.	do	West River	From H. Hattie's north line to Indianman's Brook, including all tributaries.
Sears, George	do	Sherbrooke	Sherbrooke.
Tory, Jas. A.	Overseer	Guysborough	Guysborough County.
		Halifax County.	
Blakely, Jas.	Warden	Ship Harbour	From Ship Harbour to Chezzetcook inclusive.
Coolen, Chas.	do	Shad Bay	Peggy's Cove to Torrence Bay, including Prospect and Nine Mile River.
Conrad, Chas.	do	Cole Harbour	Cole Harbour.
Fitzgerald, John	Overseer	Portuguese Cove	Halifax Harbor to Margaret Bay, Portuguese Cove.
Fraser, John	Warden	Moser's River	Moser's River and Ecum Secum and Smith's Brook.
Fraser, O. P.	do	Ecum Secum, Co. Guysboro'	Ecum Secum River.
Henry, Chas. G.	do	Upper Musquodoboit	Upper Musquodoboit River.
Hughes, P.	do	Tangier River	Tangier River.
Hemiaw, Joshua	do	Nine Mile River	Upper Nine Mile River.
Keizer, Geo.	do	Lake Porter	Lake Porter and Streams.
Leslie, Geo., senr.	Overseer	Spry Bay	Halifax County, from Pope Harbour and Harbour Island to Ecum Secum.
Mason, Nath.	Warden	Head of Margaret's Bay	From Hubert's to Peggy's Cove, Margaret's Bay, Ingraham and Indian Rivers.
Mosher, Dan.	do	Cow Bay, Dartmouth	Cow Bay Run.
McKiel, Nath	do	Sheet Harbour	Sheet Harbour.
McCleam, Donald.	do	Chezzetcook River.	Chezzetcook River.
McLeod, George	do	Little Musquodoboit	Middle Musquodoboit River.
Rowlings, Geo.	Overseer	MusquodoboitHarbour	Halifax County, East Division, Dartmouth to Pope Harbour and Harbour Island.
Shatford, H. A	Warden	Hubbard's Cove	Hubbard's River.
Stevens, Robt.	do	MusquodoboitHarbour	Musquodoboit River.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Halifax County—Con.	
Walker, Wm. G.....	Warden....	Little Salmon R., Preston Road...	Little Salmon River.
Whitman, James E....	do	Salmon River.....	Salmon River.
		Hants County.	
Burnham, P. S.....	Overseer ...	Windsor	Hants County, Western Division, from Western County Line to Walton.
Colter, John B.....	do	Milford,.....	Shubenacadie River.
Horne, Arch.....	Warden....	Enfield.....	South end of Shubenacadie and Nine Mile River.
Mosher, Jas.....	do ..	Brooklyn.....	Rivers Meander and Herbert, from mouth to source.
Mosher, Noah.....	do ...	Moshersville	Kennetcook River, from mouth to head of tide.
O'Brien, Jas	do	Maitland.....	Walton and Kennetcook Rivers.
Smith, W. B.....	Overseer ...	do	Shubenacadie River from Five Mile River to its mouth and the south side of Cobequid Bay to Noel.
Snide, John	do	Shubenacadie.....	Shubenacadie River from Shubenacadie to and including Five Mile River.
		Inverness County.	
Benvie, Peter.....	Warden....	Mabou, Brook Village	Mabou River.
Coady, James.....	Overseer ...	S. W. Margaree...	Inverness County, East Division.
Crowdis, Mark.....	Warden....	Big Intervale.....	From Bridge to Forks North-East Margaree River.
Dowling, David.....	do	Riverside.....	River Inhabitants.
Gillies, Peter	do	S. W. Mabou.....	S. W. Mabou.
Graham, Stephen	do	Long Point.	Long Point and Judique Rivers.
Murphy, Moses.....	do ...	N. E. Margaree...	Ainslie Lake.
McDonald, M. B.....	do	River Dennis	River Dennis.
McEachan, P.....	Overseer ...	Glendale	South Inverness District.
McEarlane, Angus (Angus' son).....	Warden....	Upper South-West Margaree River.	Upper South-West Margaree River.
McKay, Neil	do	Trout Brook.....	Trout Brook, Lake Ainslie.
McKinnon, Angus.....	do	N.E. Margaree Riv	Crowdis Bridge to head of river.
McLean, D. F	Overseer ...	Port Hood.....	Inverness County, Western Division.
McLennan, Allan.....	Warden....	River Dennis.....	River Dennis and Basin.
Ross, David	Overseer ...	N. E. Margaree...	Inverness County, East Division.
		King's County.	
Bishop, C. E..	Warden....	Horton.....	Gaspereaux River.
Brown, Philip	do	Blomidon	Blomidon.
Miller, Jas. S.....	Overseer ...	Canning.....	King's County.
Murphy, L. A..	Warden....	Gaspereaux.....	Gaspereaux River.
McIntyre, W.	do	Aylesford.....	Annapolis River.
Reid, R. F	Overseer ...	Wolfville.....	King's County.
Thorpe, J. W.....	Warden....	Hall's Harbour....	Hall's Point to Cape Split.
		Lunenburg County.	
Boylan, Edward	Warden....	New Ross.	Upper Gold River.
Burns, Amon.....	do	Upper La Have...	From Cooks to source of La Have River.
Cooney, Wilbur.....	do	Chester.....	East Branch, Middle River.
Croft, Wm.....	do	Chester Basin.....	East Gold River, from Bongard's Point to Gold River Branch, thence to Clarke's, Clinton's and Henry's Lakes.
Demon, David.....	do	Lower Gold River.	Lower Gold River.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Lunenburg County—Continued.	
Evans, David	Overseer	Chester	Lunenburg County, East Division, Middle Gold Martin's and Mushamush Rivers.
Godard, C. E	do	Bridgewater	La Have River.
Keating, Michael	Warden	East River	East River.
Keddy, J. H	do	New Ross	Larder's River.
Langille, James	do	Chester	Martin's River.
Mossman, Josiah	do	Lunenburg	From Henry Kock's to Knock's.
Meisner, Jacob	do	Chester	East River.
Schmeisser, N	do	East La Have Ferry	La Have River, from mouth to Wilkie's Cove.
Solomon, W. M	Overseer	Lunenburg	Western Division, Lunenburg County.
		Pictou County.	
McPhie, Allan	do	Avondale	Eastern Division, comprising the coast waters from Pictou Harbour to Antigonish County line, including French River, Barney's River, Bailey's Brook and streams tributary thereto.
McQueen, J. D	Overseer	Little Harbour	Southern Division, comprising Sutherland's River, Moose River, Garden of Eden Lake, East River, St. Mary's and streams tributary thereto.
Pritchard, A. O	do	New Glasgow	Central Division, comprising Pictou Harbour, Pictou Island, East, West and Middle Rivers of Pictou.
Sutherland, Robert	do	River John	Western Division, comprising the coast waters from Colchester County line to Cole's Reef at Pictou Harbour, and all waters flowing into these waters, viz.: River John and tributaries Toney River, Big Cariboo and Little Cariboo Rivers.
		Queen's County.	
Day, Thos	Overseer	Liverpool	Queen's County.
Fitzgerald, John	do	Mill Village	From Steam Mills to Salter's Falls on Port Medway River.
Ford, Theo	Warden	Milton	Milton Bridge up to Port Liverpool River.
Foster, I. C	do	Port Medway	Puddingpan Island to Toby's Island.
Miles, Barnabas	do	Greenfield	Salter's Falls to Pawn Hook, on Port Medway River.
		Richmond County.	
Cameron, Duncan	Overseer	St. Peter's	Eastern Division, from Bourgeois to east boundary of County, including said River.
Grant, Charles	Warden	River Inhabitants	River Inhabitants.
Gerroir, Felix	do	Arichat	Grand Ruisseau.
Grouchy, J. P	do	do	Descousse River.
Kyte, Patrick	do	River Tier, St. Peter's	River Tier.
Marmeau, Frs	Overseer	Arichat	Western Division, from River Bourgeois to west boundary of County.
Murchison, Donald	Warden	Grand River	Grand River.
McPherson, Farquhar	do	Riv. Moulin, Grandigue Ferry	River Moulin.
McRae, Allan	do	West Bay	West Bay, Black River.
Sampson, M	do	Petit de Grat	Petit de Grat Inlet.
Sampson, J	do	L'Ardoise	L'Ardoise.
		Shelburne County.	
Acker, Timothy	Warden	Birchtown	Birchtown River.
Crowell, P	do	Barrington	Barrington River.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Shelburne County—Concluded.	
Goudy, E. S.	Overseer	Barrington	Clyde River to Yarmouth County Line.
Holden, C. A.	Warden	Jordan River	Ogden's Brook and Indian River.
Kehoe, M.	do	Lockeport	Green Harbour.
McGill, W. Jno.	Overseer	Shelburne	Shelburne County.
McKinney, Lewis.	Warden	Round Bay	Round Bay River.
McLean, Wm.	do	Port Saxon	Port Saxon.
Nichol, F. G.	do	Clyde River	Clyde River.
Ryer, George	do	Shelburne	Roseway River.
		Victoria County.	
Beaton, Roderick	Warden	McNaughton	Hume's River.
Bingham, Wm.	Overseer	Englishtown	Englishtown and Ingonish Division.
Buchanan, Donald	Warden	Barachois River	Barachois River.
Capstick, Thos.	do	Bay St. Lawrence	Salmon River, Bay St. Lawrence.
Finlayson, Donald	do	Middle River	Middle River.
Foyle, Wm.	do	Baddeck River	Peter's Brook.
Hellen, Robt.	do	Cape North	Cape North.
Ingraham, G.	do	Baddeck	From Baddeck to head of Long Point.
McAuley, Donald	do	do	Baddeck River.
McCharles, D.	do	S. Gut, St. Ann's	South Gut, Ste. Ann's.
McDonald, Duncan	Overseer	Aspy Bay	Victoria County, North Division, from Smoky Head to Bay St. Lawrence.
McDonald, Archd.	Warden	do	South Branch, Middle River.
McDonald, Archd.	do	North Harbour	North Harbour.
McDougall, Michael	do	Washabuck River	Washabuck River.
McIver, Malcolm.	do	Indian Brook	Indian Brook.
McKenzie, Chris.	do	Baddeck	Middle River.
McLeod, Donald.	do	St. Ann's River	River St. Ann's.
McLellan, John.	do	Middle River	Middle River.
McMillan, Donald.	do	Baddeck	Baddeck River.
McNeil, John S.	do	Grand Narrows	From Grand Narrows to McKay's Point.
McQuarrie, Donald.	Overseer	Baddeck	Victoria County, South Division.
McRae, John (Rory's son)	Warden	McLeod	Middle River.
McRae, Donald.	do	Baddeck	Baddeck River and tributaries.
McRae, Kenneth.	do	Middle River	Indian Brook.
McRae, Donald.	do	Red Head, Baddeck	Red Head, Baddeck.
McRae, John.	do	Gold Diggings, Middle River	Gold Diggings, Middle River.
		Yarmouth County.	
Brand, J. I.	Warden	West Pubnico	Pubnico and Argyle.
Doucet, Jérôme.	do	Tusket	Tusket River.
Hatfield, J. A.	Overseer	do	Yarmouth County.
Muise, Vital.	Warden	Tusket Forks	Tusket Forks.
Porter, Z.	do	Beaver River	Beaver River.
Porter, John B.	do	Eel Lake	Eel Lake.

PROVINCE OF NEW BRUNSWICK.

J. H. Pratt.	Inspector of Fisheries and officer in command of Cruiser "Dream."	St. Andrew's	District No. 1, comprising the County of Charlotte, including the Islands of Campobello and Grand Manan, and Passamaquoddy Bay.
Robert A. Chapman	Inspector of Fisheries.	Moncton	District No. 2, comprising the Counties of Restigouche, Gloucester, Northumberland, Kent and Westmoreland.
David Morrow	do	Oromocto	District No. 3, comprising the Counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Albert County.	
Dryden, J. W	Warden	Hillsboro'	Mouth of Petitcodiac River and Dorchester Bay
Oliver, Bartlet	do	Harvey, Little Rocher	Rocher Bay.
Stewart, Suthd	Overseer	Alma	County of Albert.
Taylor, Wallace	Warden	Coverdale	Petitcodiac River.
Wilbur, Kinnear T	do	Midway, Harvey	Germantown Lake and Shepody River.
		Carleton County.	
Burt, George R	Overseer	Upper Woodstock	St. John River and tributaries, from Long's Creek to Tobique River.
Lindsay, G. Alex	do	Highlands	Miramichi River(S.W) from head waters to forks.
Scott, J. W	Warden	Canterbury	St. John River, from Eel River to Woodstock.
		Charlotte County.	
Ash, Wm	Overseer	Beaver Harbour	East District of County Charlotte.
Barry, Thos	Warden	Lower Falls, Magaguadavic	Lower Falls, Magaguadavic River.
Brown, Barth	Overseer	Campobello	Campobello and West Isles, with coasts and streams in Charlotte County.
Campbell, D. F	do	St. Andrews	Inner Bay of Passamaquoddy.
Carrol, Edward	Warden	Grand Manan	Whitehead Island.
Dick, Samuel	do	La Tête	Inner Bay, Passamaquoddy.
Dixon, Robert	do	Lepreaux	Seeley's Cove to Lepreaux.
Holmes, Thomas	do	Deer Island	West side, Deer Island.
Lord, J. M	Overseer	do	Deer Island.
McLaughlin, W. B	do	Grand Manan	Grand Manan Island and spawning grounds.
Todd, Frank	do	St. Stephen	St. Croix River and tributaries.
		Gloucester County.	
Aché, Adolphe	Warden	Shippegan	Shippegan.
Boyd, Alex	Overseer	Miscou Harbour	Little Shippegan to Miscou.
Calnan, John, jun	Warden	Kinsale	That part of River Tête à Gauche, from a mile above the Mill Dam to the source of said river.
Comeau, Frédéric	do	Petit Rocher	Petit Rocher, from Belledune to Mill Stream.
Cormier, Gustave	Overseer	Caraquet	Caraquet Herring Banks.
Dempsey, Miles	Warden	Salmon Beach	Salmon Beach, from Bass River to Grindstone Point.
Gibbs, Valentine	do	Pokemouche	Pokemouche.
Hache, J. L	Overseer	Caraquet	Caraquet and Shippegan oyster beds with St. Cimon's Inlet and River.
Hickson, James	do	Bathurst	River Nepissiguit and tributaries, with sea coast and streams, from Belledune River to Grindstone Point.
Robicheau, Olivier	Warden	Ferguson's Point	Coast from Northumberland County line to Green Point, with Big and Little Tracadie Rivers.
Trudel, Camille	do	Shippegan	Shippegan.
Walsh, William	Overseer	Pokemouche	The District of Pokemouche.
		Kent County.	
Collet, A. L	Warden	Buctouche	Buctouche Bay.
Cormier, Chas	Overseer	Cocagne	Cocagne River.
Girouard, M. A	do	Buctouche	Big Buctouche River.
Guimon, Lazare	do	St. Louis	From Kouchibouquacis to Cockfish River.
Hannah, Wm. F	do	Richibucto	Richibucto River.
Leger, F. B	Warden	Little Buctouche River	Little Buctouche River.
Leblanc, A. T	Overseer	Legerville	Canaan River (upper part).
Mauzerolles, Nicholas	Warden	Kouchibouquacis	From Kouchibouquacis River to Point Sapin.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		King's County.	
Belyea, J. A	Overseer	Westfield	St. John River and Belle Isle Bay and streams running thereinto.
Fenwick, Edwin	Warden	Studholm	Millstream.
Gosline, Samuel	Overseer	Smith's Creek	From mouth of Smith's Creek, upwards.
Pearson, I. R	Warden	English Settlement	Washademoak Lake and its tributaries in King's and Queen's Counties.
Spragg, Z. S	do	Belle Isle	Belle Isle Bay.
		Northumberland County.	
Robichaud, Prudent	Overseer	Upper Neguac	District No. 1—The north coast of Northumberland County extending from Gloucester County line up the Miramichi Bay and River to Oak Point as far as midchannel, including all bays, gullies, islands, rivers and streams entering thereinto.
Williston, J. G	do	Bay du Vin	District No. 2—The south coast of Northumberland County, extending from Kent County line up the Miramichi Bay and River to Point aux Carr as far as midchannel, including all bays, gullies and islands and rivers and streams entering thereinto.
Wyse, William	do	Chatham	District No. 3—Both shores of the main Miramichi River extending from a line drawn from Point aux Carr on the south side to Oak Point on the north side, to its junction with the north-west and south-west Miramichi Rivers, together with all islands therein and all rivers and streams emptying thereinto.
Hogan, Patrick	do		District No. 4—The north-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources.
Parker, Thomas	do	Derby	District No. 5—The south-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources.
		Queen's County.	
Hetherington, I. T	Overseer	Jenkins, Johnson	From Cole's Island to foot of Washademoak Lake
Langan, Isaiah	Warden	Chipman, Gaspereaux	Salmon River.
Philips, Robert	do	Canaan Rapids	Head waters, Washademoak Lake.
		Restigouche County.	
McPherson, Alex	Overseer	River Charlo	From Belledune to Dalhousie.
		Sunbury County.	
Griffith, Chas	do	Burton	St. John River, Indiantown to County Line of York.
Hoben, G. W	Warden	Sheffield	do do do
		St. John County.	
O'Brien, Jos	Overseer	Carleton, St. John.	St. John County.
Rourke, E. V	do	St. Martin's	Eastern part of St. John County, from Quaco Head to Goose River.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Victoria County.	
Caron, Magloire	Warden	Middle St. Francis	Above Fish River Rapids.
Edgar, Thos	do	Three Rivers	Middle Division, Tobique River.
Larlie, Daniel	do	Andover	Salmon River.
McDougall, John	do	Rocky Brook, Parish of Lorne.	Three Brooks, Branch of Tobique River.
Pelletier, Beloni	do	Caron's Brook	Baker's Lake and adjoining streams.
Roberts, Chas., jun	do	Andover	Lower Division, Tobique River.
Ryan, Thos. D	Overseer	Grand Falls	County of Victoria.
		Westmoreland County.	
Cormier, D. T	do	Pré-d'en-haut	Dorchester Bay.
Deacon, W. B	do	Shediac	Shediac Harbour and River.
Goodwin, Robt	do	Bay Verte	The Parishes of Sackville and Westmoreland.
		York County.	
Campbell, J. A	Warden	Kingsclear, Fredericton	Grand Pass, on St. John River, upwards, from Crock's Point to Lower Line of York County, including Nashwaak River.
Cronkhite, A. B	do	Southampton	St. John River, from Upper Line of York County to Crock's Point, on River St. John.
Cunningham, A	Overseer	Canterbury Station	Skiff and Palfry and other lakes.
Glendenning, D	Warden	Harvey Station	Magaguadavic Stream and Lake Oromocto and other lakes.
McNelly, L	do	Upper Kingsclear	From Burgoyne's Ferry to Nackawack.
Moir, A	Overseer	Bloomfield	From Price's Bend to Burnt Hill, S.W. Miramichi.
Orr, Robt	do	Fredericton	County of York.

PROVINCE OF PRINCE EDWARD ISLAND.

Edward Hackett	Inspector of Fisheries.	Tignish	Prince Edward Island
		King's County.	
Cuddie, James	Warden	Marray Harbour	Murray Harbour and River, with Lots 63 and 64.
Dingwell, J. H	do	Morell River	Fourth District of Morell
Duffy, Peter	do	St. Peter's	St. Peter's and Morell.
Griffin, Henry	do	Georgetown	Cardigan Bay and Montague River
Mathewson, M	do	Grand River	Grand River.
Mitchel, James	do	Peake's Road	First District of Morell.
Morrow, Henry	do	Souris River	Souris River.
McDonald, Allan	do	North Lake	North Lake.
McDonald, Ronald	do	Naufrage River	Naufrage River.
O'Brien, John	do	Morell River	Second District of Morell.
Reilly, Daniel	do	Montague River	Montague, from Georgetown Road to Whim Road.
		Queen's County.	
Beers, George F	Warden	Cherry Valley	Pownal Bay and Seal River.
Buotte, Dominique	do	Rustico	District of Rustico.
Currie, Neil	do	Long Creek, West River.	Shore of Lot 65, South of West River.
Delaney, Jonathan	do	New London	New London.
Garnum, Lionel	do	Winter River	Winter River.
Howatt, James	do	Crapaud	Crapaud.
MacKenzie, Finlay	do	Pinette River	Lots 60 and 62.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Queen's Co.—Con.	
Murphy, Thomas	Warden	Stanley Bridge	Trout River.
Murphy, Joseph	do	China Point, Lot 50	District of Pownal Bay and Seal River.
McDonald, Charles C.	do	Blooming Ponds	Alewife fishery of Blooming Ponds.
Power, James	do	Hunter River	Huntley and Wheatley Rivers.
Ready, Michael	do	Tracadie	Winter River.
Shaw, A. C.	do	Long Creek, Lot 65	District of West River.
Stanley, Francis	do	Charlottetown	Charlottetown, including East, West and North Rivers.
Stephenson, George	do	New Glasgow	New Glasgow River.
Traynor, James P.	do	Johnston's River	Johnston's River, including oyster fishery at its mouth.
Whitehead, William	do	S. W. River	South West River.
		Prince County.	
Aylward, Peter	Warden	Tignish	Skinner's Pond, southward, from south end of Nail Pond to Black Pond, inclusive, and east to railway.
Bryant, D. L.	do	Mount Pleasant, Lot 18	From western bank of Big Pierre Jacques River to the point where the north line of Lot 15 touches the shore of Egmont Bay.
Chiasson, John (Chapel).	do	Tignish	Tignish, from line of Lot 2, northward to include Little and Big Tignish, and westward to Railway.
McBride, Patrick	Overseer	Lower Freetown	County of Prince.
Doyle, Lawrence.	Warden	Lot 3	From Little Miminigash to Cape Wolfe.
Gillis, V. S.	do	Indian River, Lot 18	Richmond Bay and Malpeque.
Holland, J. F. B.	do	Bedeque	From Graham's Head, Lot 26, to Cape Traverse.
Howat, Calvin	do	Tryon River	Tryon River.
McDonald, James A.	do	Grand River	Grand River.
McDonald, Alex.	do	Alberton	Cascumpeque Bay and Inlet, from the Narrows to Kildare Capes.
Nelligan, James M.	do	Nail Pond	Nail Pond, Skinner's Pond.
Ramsey, J. A.	do	Hamilton, Lot 18	Oyster Cove, Richmond Bay.
Ramsey, James	do	Tyne Valley	Lot 13, Trout River.
Ramsey, J. K.	do	West Cape	From Cape Wolfe to Brae River.
Reid, Peter	do	Coleman	Lots 5, 6 and 10.
Rix, John	do	Miminigash	Miminigash.
Sharpe, John A.	do	Summerside	Summerside, including Bedeque Bay and South part of Richmond Bay.
Sharpe, George A.	do	Lot 12	Lot 12, on the Narrows.

PROVINCE OF MANITOBA AND NORTH-WEST TERRITORIES.

Alex. McQueen	Inspector	Winnipeg	Province of Manitoba.
F. C. Gilchrist	Overseer	Fort Qu'Appelle	Qu'Appelle River and adjoining lakes.
John Foster	do	Sussex, Craven P.O	Long Lake, North-West Territories.
C. L. Guoin	do	Calgary	District of Calgary, N.W.T.
S. B. Lucas	do	Holbrooke	District of Peace Hills.
R. S. McKenzie	do	Stobart	District of Prince Albert.
Robert Gunne	do	Winnipeg	Each within the limits of his district as a Forest Ranger.
William Toole	do	do	
A. B. McLellan	do	do	
Michael Fee	do	do	
A. E. Johnston	do	Edmonton	
J. R. Thompson	do	Calgary	
R. S. Cook	do	Prince Albert	
H. J. Montgomery	do	Battleford	

SCHEDULE of Fishery Officers, &c.—*Concluded.*

PROVINCE OF BRITISH COLUMBIA.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Thomas Mowat	Inspector	New Westminster.	Province of British Columbia.
J. W. McKay	Overseer	Kamloops	District of Yale.

FISH CULTURE.

Name.	Rank.		P. O. Address.
Samuel Wilmot	Superintendent of Fish Culture for the Dominion		Ottawa.
Charles Wilmot	Officer in charge of Government Fish Hatchery		Newcastle, Ont.
William Parker	do	do	Sandwich, Ont.
L. N. Catellier	do	do	Tadoussac, Que.
Henry Davis	do	do	Gaspé Basin, Que.
Alex. Mowat	do	do	Deeside, Metapedia, Que.
A. H. Moore	do	do	Magog, Que.
A. B. Wilmot	do	do	Bedford Basin, N.S.
C. A. Farquharson	do	do	Sydney, C.B., N.S.
Isaac Sheasgreen	do	do	South Esk, N.B.
Charles McCluskey	do	do	Grand Falls, N.B.
Thomas Mowat	do	do	New Westminster, B.C.

RECAPITULATION.

Provinces.	No. of Officers.
Ontario	112
Quebec	68
Nova Scotia	214
New Brunswick	77
Prince Edward Island	47
Manitoba and North-West Territories	14
British Columbia	2
Fish Culture	12
Officers and crews of eight fisheries protection vessels	175
Total	721

In addition to the above regular staff, 103 temporary local Guardians were employed during the year as occasion required.

APPENDIX No. 2.

FISHING BOUNTIES.

GENERAL STATEMENT of Fishing Bounty Claims received for the Year 1889.

Province.	County.	No. of Claims Received.	No. of Claims Rejected.	No. of Claims held in abeyance.	No. of Claims Paid.
Nova Scotia	Annapolis	183	1		183*
	Antigonish	154			154
	Cape Breton	515	2		513
	Digby	286		1	285
	Guysboro'	1,203	3		1,200
	Halifax	1,523	19	3	1,515*
	Inverness	695	1		694
	King's	48	2		46
	Lunenburg	887	8		880*
	Pictou	19			19
	Queen's	264	1		263
	Richmond	1,325	53	209	1,063
	Shelburne	746	2		744
	Victoria	749	2		747
	Yarmouth	219	1	1	217
	Totals	8,816	95	214	8,523
New Brunswick	Charlotte	851	1		850
	Gloucester	1,190	19	13	1,158
	Kent	286	1		285
	Northumberland	20	2		19*
	Restigouche	2			2
	St. John	72	1		71
	Westmoreland	7			7
	Totals	2,428	24	13	2,392
Prince Edward Island	King's	638	6		944*
	Prince	436	6		430
	Queen's	137			137
	Totals	1,211	12		1,511
Quebec	Bonaventure	1,622	7		1,623*
	Gaspé	2,447	17		2,432*
	Rimouski	28			28
	Saguenay	567	6		569*
	Totals	4,664	30		4,652

RECAPITULATION.

Nova Scotia	8,816	95	214	8,523
New Brunswick	2,428	24	13	2,392
Prince Edward Island	1,211	12		1,511
Quebec	4,664	30		4,652
Grand Totals	17,119	161	227	17,078

* NOTE.—The number of Bounty Claims paid for 1889 includes several claims for the year 1888 held in abeyance for enquiry. This will explain the difference between claims paid and claims received after deducting those rejected and held in abeyance.

GENERAL STATEMENT of Payments made on account of Fishing Bounty Claims to **Boats** and **Vessels**, for the year 1889.

Province.	County.	Amount Paid.	Total.
		$ cts.	$ cts.
Nova Scotia	Annapolis	1,226 31	
	Antigonish	1,012 00	
	Cape Breton	3,777 47	
	Digby	3,329 61	
	Guysboro'	9,067 57	
	Halifax	12,156 08	
	Inverness	6,207 96	
	King's	324 50	
	Lunenburg	20,761 42	
	Pictou	153 00	
	Queen's	3,023 06	
	Richmond	9,359 92	
	Shelburne	8,367 80	
	Victoria	5,051 00	
	Yarmouth	6,324 81	
			90,142 51
New Brunswick	Charlotte	6,930 16	
	Gloucester	10,412 95	
	Kent	2,248 65	
	Northumberland	499 37	
	Restigouche	28 00	
	St. John	864 66	
	Westmoreland	43 00	
			21 026 79
Prince Edward Island	King's	7,715 02	
	Prince	4,765 25	
	Queen's	1,514 26	
			13,994 53
Quebec	Bonaventure	10,689 00	
	Gaspé	17,453 34	
	Rimouski	160 00	
	Saguenay	5,060 37	
			33,362 71
	Grand total		158,526 54

NOTE.—Of the above amount, $8,526.69 has been charged against the appropriation for 1890-91.

DETAILED STATEMENT showing Fishing Bounties paid to **Vessels** in each County, for the Year 1889.

Province.	County.	No. of Vessels.	Tonnage.	Average Tonnage.	No. of Men.	Amount Paid.
						$ cts.
Nova Scotia	Annapolis	6	136	23	29	182 31
	Cape Breton	12	220	18	41	307 47
	Digby	51	1,177	23	351	1,721 61
	Guysboro'	19	677	36	120	974 57
	Halifax	123	3,052	25	698	4,367 08
	Inverness	22	741	34	141	1,037 96
	King's	5	75	15	12	112 50
	Lunenburg	159	11,519	72	2,019	17,184 42
	Pictou	1	22	22	4	33 00
	Queen's	18	1,048	58	212	1,524 06
	Richmond	65	1,932	30	471	2,825 92
	Shelburne	53	2,835	53	653	4,127 80
	Victoria	1	14	14	3	21 00
	Yarmouth	62	3,675	59	930	5,428 81
	Totals	597	27,123	45	5,684	39,848 51
New Brunswick	Charlotte	88	1,501	17	306	2,127 16
	Gloucester	31	401	13	102	590 95
	Kent	3	51	17	10	71 50
	Northumberland	9	291	32	62	414 37
	Restigouche	1	14	14	3	21 00
	St. John	21	332	16	82	487 66
	Totals	153	2,590	17	565	3,712 64
Prince Edward Island	King's	20	764	38	134	1,043 02
	Prince	12	461	38	89	651 25
	Queen's	3	49	16	16	69 26
	Totals	35	1,274	36	239	1,763 53
Quebec	Gaspé	16	660	41	122	856 34
	Saguenay	32	1,069	33	208	1,600 87
	Totals	48	1,729	36	330	2,457 21

RECAPITULATION.

Nova Scotia	597	27,123	45	5,684	39,848 51
New Brunswick	153	2,590	17	565	3,712 64
Prince Edward Island	35	1,274	36	239	1,763 53
Quebec	48	1,729	36	330	2,457 21
Grand totals	833	32,716	39	6,818	47,781 89

Detailed Statement of Fishing Bounties paid to Boats for the Year 1889.

Province.	County.	No. of Boats.	No. of Men.	Amount Paid.
				$ cts.
Nova Scotia	Annapolis	177	289	1,044 00
	Antigonish	154	286	1,012 00
	Cape Breton	501	990	3,470 00
	Digby	234	457	1,608 00
	Guysboro'	1,181	2,303	8,093 00
	Halifax	1,392	2,129	7,789 00
	Inverness	672	1,498	5,170 00
	King's	41	57	212 00
	Lunenburg	721	954	3,577 00
	Pictou	18	34	120 00
	Queen's	245	418	1,499 00
	Richmond	998	1,845	6,534 00
	Shelburne	691	1,183	4,240 00
	Victoria	746	1,428	5,030 00
	Yarmouth	155	247	896 00
	Totals	7,926	14,118	50,294 00
New Brunswick	Charlotte	762	1,349	4,803 00
	Gloucester	1,125	2,904	9,822 00
	Kent	282	631	2,177 15
	Northumberland	10	25	85 00
	Restigouche	1	2	7 00
	St. John	50	109	377 00
	Westmoreland	7	12	43 00
	Totals	2,237	5,032	17,314 15
Prince Edward Island	King's	923	1,910	6,672 00
	Prince	418	1,221	4,114 00
	Queen's	134	437	1,445 00
	Totals	1,475	3,568	12,231 00
Quebec	Bonaventure	1,623	3,024	10,689 00
	Gaspé	2,414	4,729	16,597 00
	Rimouski	28	44	160 00
	Saguenay	537	1,010	3,459 50
	Totals	4,602	8,807	30,905 50

RECAPITULATION.

Nova Scotia	7,926	14,118	50,294 00
New Brunswick	2,237	5,032	17,314 15
Prince Edward Island	1,475	3,568	12,231 00
Quebec	4,602	8,807	30,905 50
Grand Totals	16,240	31,525	110,744 65

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, for the Year 1889.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
57,153	Cygnet	Yarmouth	19	Warren Snow	Hillsburn	4	28 50
90,667	Edward Everett	Digby	57	David Hayden	Lower Granville.	10	78 36
77,766	Laconic	Shelburne	15	Jno. W. Sproule	Leitchfield	7	22 50
88,685	Ladora	St. John, N.B	12	Stephen Baker	Margaretville	3	15 75
77,958	Maggie M	Annapolis	16	Parker Zwicker	Clementsport	2	16 80
83,253	Rescue	do	17	Josiah Burrell	do	3	20 40

CAPE BRETON COUNTY.

88,507	Belle of Rome	Sydney	14	Thos. Bagnell	Gabarouse	3	16 80
92,592	Dread Not	do	10	Peter Leblanc	Little Bras d'Or.	2	15 00
90,718	Gladys	do	57	D. A. Smith	North Sydney	4	67 17
88,513	Ida	do	10	Isaiah Leblanc	Little Bras d'Or.	2	15 00
92,600	Merit	do	13	Alex. Leblanc	do	3	19 50
80,973	Ocean Wave	do	20	Samuel Moore	do	4	30 00
88,504	Quick Step	do	12	Fred. Marsh, *et al.*	Lingan	3	18 00
57,681	Quick Step	Halifax	22	Wm. O'Brien	Little Bras d'Or.	3	33 00
74,038	River Queen	Sydney	32	Peter Deveaux	do	6	48 00
77,857	Sailor's Bride	do	10	Edward O'Brien	do	3	15 00
92,593	Thomas Parnell	do	10	Wm. Anderson	North Sydney	4	15 00
88,518	W. F. Elizabeth	do	10	Wm. Curry	S. Head, Cow Bay	4	15 00

DIGBY COUNTY.

72,978	Annie Coggins	Digby	22	L. Coggins, M.O	Westport	7	30 93
90,660	Alice May	Yarmouth	18	Bradish Bailey	do	7	25 31
83,431	Acadian	Weymouth	32	Samuel Thurber	Freeport	8	48 00
75,612	Alice	Yarmouth	17	Chas. E. Finigan	do	6	23 67
83,258	Alfred	Annapolis	22	Amos H. Outhouse	Tiverton	10	33 00
75,721	Angeline	Yarmouth	67	Wm. Snow	Digby	14	100 50
74,331	Condor	do	11	Howard Titus	Westport	5	16 50
83,421	Charley	Weymouth	10	Delaney Graham	Centreville	2	11 24
85,684	Constitution	Digby	28	James W. Dillon	Digby	8	42 00
88,403	David Sprague	do	31	Colin Titus	Westport	3	37 20
75,711	Dove	Yarmouth	20	Joseph Ossinger	Tiverton	7	30 00
77,740	Elmer	Digby	15	Walter Coggins	Westport	6	22 50
75,757	Etta	Yarmouth	17	J. W. C. Webber	do	6	25 50
85,683	Edith L.	Digby	16	Isaac Peters	do	4	20 00
80,797	Ella H	do	13	T. W. Whiteneck	Freeport	5	19 50
90,662	Edward A. Horton.	do	67	Joseph E. Snow	Digby	14	100 50
74,329	Fairy Queen	Yarmouth	13	Wallace Coggins	Westport	5	17 87
80,798	Freddie G	Digby	18	Geo. Gower	do	6	27 00
75,614	Fawn	do	17	Isaac Peters	do	7	25 50
75,601	Flash	do	10	James A. Peters	do	5	15 00
85,550	Fair Play	Yarmouth	11	Jno. Sollows	Port Maitland	5	16 50
85,686	Gladstone	Digby	16	Augustus Haycock	Westport	6	24 00
83,260	Gazelle	Annapolis	20	D. & O. Sproule	Digby	5	30 00
80,799	Hattie T	Digby	16	Frank P. Titus	Westport	6	24 00
80,800	Helen Maud	do	20	Chas. McDormand	do	7	30 00
75,751	Helen Gertrude Nickerson	Yarmouth	16	M. & E. Haines	Freeport	5	22 00
80,604	Jennie C	do	16	Charles Hicks	Westport	6	24 00
94,693	John H. Kennedy	Digby	54	J. S. Hayden	Granville	9	76 95

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

DIGBY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
85,685	L. M. Ellis	Digby	35	Holland Outhouse	Tiverton	11	52 50
80,786	Lizzie P	do	12	Mary E. Wyman	Freeport	5	16 50
85,690	Lora T	do	15	Joseph Thurber	do	6	22 50
88,404	Live Yankee	do	57	Howard Anderson	Digby	12	85 50
75,594	Lizzie G	do	16	Wm. McGrath	Granville	7	24 00
85,682	Malapert	do	22	James Glaven	Westport	8	33 00
80,794	Minnie C	do	18	Charles Bailey	do	6	27 00
77,618	May Queen	Barrington	34	Livingstone Coggins	do	11	51 00
85,533	Minnie C	Yarmouth	12	J. N. Sanders	Port Maitland	3	15 75
90,873	Primrose	do	34	Wm. McKenzie	Westport	10	51 00
75,714	Prince	do	10	Geo. Stevens	Freeport	5	15 00
83,132	Restless	Digby	25	Frank Suthern	Westport	8	37 50
85,558	S. A. Crowell	Yarmouth	23	Wallace Gower	do	8	34 50
80,784	Silver Cloud	Digby	41	Andrew Coggins, M.O.	do	10	61 50
75,725	Stella	Yarmouth	24	Byard Powell	Freeport	7	36 00
75,726	Thrush	do	13	Handley Outhouse	Tiverton	5	19 50
94,694	Utah Unice	Digby	33	M. & E. Haines	Freport	8	49 50
37,282	Victoria	do	29	Jno. Outhouse	Tiverton	10	43 50
74,317	Willie	Yarmouth	21	Henry Glaven	Westport	8	29 75
85,559	Willie F	do	12	Edw. C. Thurber	Freeport	4	18 00
75,595	West Wind	Digby	25	James Cousins	Digby	5	32 14
75,722	Yuba	Yarmouth	15	George Denton	Westport	6	22 50
77,953	Zulu	Annapolis	18	Jno. McKay	Tiverton	4	24 30

GUYSBORO' COUNTY.

80,985	Annie Roy	Guysboro'	80	G. E. Jost	Guysboro'	14	120 00
80,991	Atalanta	do	80	Stephen Sweet	Isaac's Harbour.	15	120 00
90,736	Alert	Pt. Hawkesbury.	11	W. A. Keating	Port Mulgrave	3	16 50
41,771	Atalia	Guysboro'	34	Thos. H. Peeples	Pirate Harbour	4	51 00
90,841	C. W. Lundy	do	12	Wm. Luddington	Coddles Harbour	5	18 00
80,988	Dido	do	59	Stephen Sweet	Isaac's Harbour.	12	88 50
80,996	Gertie Belle	do	15	Alex. Munroe	White Head	3	18 00
80,999	Guardian Angel	do	21	Joseph Fougère, jun	Larry's River	4	28 35
57,715	John Lawrence	Halifax	22	Alex. Henderson	New Harbour	5	33 00
77,942	Julia Franklyn	Charlottetown, P.E.I	79	Henry Linden	Charlo's Cove	8	93 14
85,724	Jumbo	Halifax	20	do	do	8	30 00
80,989	Laura	Guysboro'	80	Henry M. Jost	Guysboro'	12	115 38
69,964	Lizzie A	Pt. Hawkesbury.	20	J. F. & A. H. Reeves	Pirate Harbour	4	30 00
69,141	Mary Elisabeth	Halifax	16	Wm. G. Webber	Torbay	4	24 00
74,142	Mary A	Lunenburg	45	Robert Jamieson	Canso	3	54 00
83,092	Maud F	Pt. Hawkesbury.	11	Wm. Critchett	Steep Creek	2	16 50
80,970	Orion	Halifax	24	E. B. Pelrine	Larry's River	6	36 00
75,892	Peter Mitchell	Pt. Hawkesbury.	26	Wm. & Wm. P. Power	Pirate Harbour	4	39 00
36,991	Vegete	Lunenburg	32	Jno. Maskell	Jeddore	4	43 20

HALIFAX COUNTY.

77,826	Abbie G	Halifax	31	Walter Glawson	Pleasant Hbr	6	46 50
83,106	Annie Isabel	do	23	Peter Bowser, sen., *et al*	Musquodoboit Harbour	5	28 02
73,964	Aubrey S	do	21	Jeffrey Gilbert	Petpiswick Hbr.	3	25 20
36,996	Agile	Lunenburg	27	Henry A. Shatford	Hubbard's Cove.	8	36 44
57,727	Agnes	Halifax	21	John Hayes	Herring Cove	6	31 50
61,625	Alpha	do	18	Jno. Smith, M.O.	French Village	7	27 00
74,020	Addie	do	16	Denis Fagan, M.O.	Ketch Harbour	5	24 00

DETAILED STATEMENT of Fishery Bounties paid to **Vessels**, &c.—*Continued.*

HALIFAX COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
37,619	British Queen	Halifax	20	Wm. Hubley	Spry Bay	4	25 00
90,721	Brilliant Star	do	36	P. & J. Hartling	East Jeddore	10	54 00
94,662	Bessie Florence	do	12	Chas. W. Twohig	Pennant	3	15 75
90,496	Black Prince	do	18	James W. Slaunwhite	Terrence Bay	4	27 00
92,566	Cassie M	do	13	W. H. Munro	Sheet Harbour	3	19 50
75,806	Can't help it	do	57	Wm. Beazley	Ferguson's Cove	13	85 50
61,629	Carrie R	do	17	Jno. Jollimore	Terrence Bay	3	20 40
85,381	Champion	do	17	Stephen Slaunwhite	do	4	25 50
74,108	City Belle	do	21	Joseph Graves	East Dover	4	28 35
85,667	Dart	do	10	Geo. Julyan	W. Chezzetcook	2	15 00
85,655	Daisy	do	16	C. & W. Johnson	Indian Harbour	4	24 00
85,663	Daring	do	18	Chas. Slaunwhite	Terrence Bay	3	23 62
83,320	Dessie M	Port Medway	80	James T. Thompson	Halifax	16	120 00
77,607	Dianthus	Lunenburg	45	P. & J. Dauphiney	French Village	10	67 50
92,564	Evangeline	Halifax	23	D. & G. Baker	West Jeddore	7	34 50
74,091	Eastern Clipper	do	35	Jno. H. Fader	St. Margarets	3	45 93
57,259	Ella	Lunenburg	40	Jno. D. Wynaught	North Shore	9	57 00
90,481	Ella D	Halifax	32	Archibald Darrah	Herring Cove	6	42 00
85,738	Emma F	do	13	Artemas Zink	West Dover	3	17 06
80,832	Ella May	Lunenburg	16	Amos Murphy, M.O	French Village	4	24 00
90,726	Ellen Maud	Halifax	16	Geo. Schnare	Pennant	4	24 00
94,678	Extenuate	do	10	Alex. Tough	do	3	15 00
88,227	Fleetwing	do	32	Thos. Lapierre, Sr., *et al*	W. Chezzetcook	9	43 62
85,644	Flora	do	42	Patrick Scallion	Herring Cove	6	50 40
77,751	Flora Dell	do	63	Geo. W. Smith	Indian Harbour	8	94 50
90,717	Florence	do	80	C. W. Anderson, M.O.	Halifax	13	108 75
83,180	Friend	do	17	James H. Scott	East Dover	3	19 11
57,760	Guardian Angel	do	36	Jno. McCarthy	Taylor Head	7	54 00
90,489	Greenleaf	do	44	James Julien, M O	W. Chezzetcook	12	66 00
85,382	G. H. Marryat	do	24	Edmund A. Creighton	Shad Bay	6	36 00
37,488	Gipsy Lass	do	26	Jno. P. Slaunwhite	Terrence Bay	5	39 00
96,782	Glide	do	10	Geo. Burgoyne	Hackett's Cove	2	15 00
88,220	Grandee	do	14	Aaron Martin	Pennant	4	21 00
42,295	Hero	do	34	Peter Mason	Tangier	7	51 00
92,574	H. W. Wentzel	do	36	Wm. Wentzel *et al*	W. Chezzetcook	11	54 00
69,097	Highland Jane	do	32	Geo. Hartlin	East Jeddore	9	45 60
88,213	H. H. Belle	do	13	Isaiah Covey *et al*	Indian Harbour	3	19 50
77,786	Hesperus	do	16	Joseph Reyno	Herring Cove	3	24 00
83,134	Infant	do	14	Alex. Coolen	do	5	20 50
83,306	Iona	do	26	Andrew Sullivan	do	7	36 56
74,080	J. A. Kirk	do	16	Jno. Jackson	Spry Bay	6	24 00
74,105	Jessie	do	21	P. & A. Myers	Head Jeddore	7	31 50
54,132	John Franklin	do	18	James Dempsey, Sr.	Herring Cove	4	27 00
75,779	John Millard	Barrington	68	Thos. H. Renner	Halifax	13	95 20
94,665	Louis Luby	Halifax	41	Simon Lapierre, M.O.	W. Chezzetcook	13	59 30
94,661	L. C. Tough	do	12	Jno. E. Tough	Pennant	4	16 20
69,105	Lady of the Lake	do	20	Edward Walsh	Upper Prospect	3	30 00
74,099	Leading Breeze	do	15	David F. Covey	Hackett's Cove	2	15 75
92,572	Mattie B	do	32	Raymond O'Brien	Ship Harbour	5	48 00
90,722	Minnie Bell	do	11	Jno. Kent	Musquodoboit Harbour	2	13 75
85,385	Minnie M	do	27	Wm. Nieforth *et al*	Seaforth	7	36 00
83,408	M. A. Franklyn	do	22	Albert Launt	West Dover	5	33 00
94,671	Mary A. W	do	13	Andrew Blaikley	Indian Harbour	2	19 50
85,664	Mary E	do	14	Andrew Twohig	Pennant	3	21 00
85,653	Mary O'Dell	do	10	J. L. Richardson	Indian Harbour	2	15 00
92,576	Mayflower	do	13	James Young	Sambro	3	19 50
85,646	Maude	do	15	Alfred Boutilier		4	22 50
59,474	Merit	do	41	Lawson, Harrington & Co	Halifax	5	45 95
90,716	New Dominion	do	34	J. & J. Fillis	W. Chezzetcook	8	51 00
83,107	North Star	do	26	James Lapierre *et al*	do	8	39 00

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

HALIFAX COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
85,665	Nellie D	Halifax	12	Daniel Smith	Sambro	3	18 00
80,843	Nettie B. H	do	23	Wm. Hearn	Upper Prospect	5	31 62
94,667	Nettie M. G	do	32	S. Hubly & C. Garrison	Indian Harbour	10	48 00
37,608	Ocean Belle	do	68	James Allen	Halifax	5	102 00
64,018	Ocean Bride	do	23	Mathew Lynch, Jr	Ferguson's Cove	7	34 50
94,679	Progress	do	14	G. A. Leslie	Spry Bay	1	12 60
88,215	Peep O' Day	do	12	Isaac Corney	East Dover	2	18 00
92,571	Primrose	do	14	J. F. Slaunwhite	Terrence Bay	3	18 37
59,462	Rival	do	20	Henry Faulkner	Ship Harbour	6	30 00
77,729	Royal Charlie	do	31	James Jennex *et al*	East Jeddore	12	46 50
77,787	Rescue	do	20	Edw. Corney	East Dover	6	26 24
88,223	River Belle	do	11	Jno. D. Christian	Upper Prospect	3	16 50
92,575	Robinetta	do	14	Wm. S. Henneberry	Sambro	4	21 00
53,551	Roving Bird	do	24	Jno. Brown	Herring Cove	6	36 00
73,119	Royal	do	12	Thos. O'Neil	Halifax	3	18 00
37,519	Safeguide	do	36	Jno. T. Abriel	Pope's Harbour	8	54 00
94,675	Success	do	16	Isaac Prest	Spry Bay	5	24 00
74,087	Sea Gem	do	30	Wm. Jennex	East Jeddore	6	45 00
88,229	Seaway	do	22	Gabriel Murphy	W. Chezzetcook	7	33 00
83,114	Sailors Fancy	do	16	Lawson Pace	Hackett's Cove	3	19 20
64,869	Sarah L. Oxner	do	33	Edward Hayes	Herring Cove	7	46 40
83,118	Spray	do	15	Chas. Fadaer	St. Margaret's Bay	2	16 87
53,600	Starlight	do	29	Patrick Power	Herring Cove	7	40 79
85,390	Susan C	do	21	Daniel Croucher	Hackett's Cove	3	25 20
75,833	Twilight	do	14	Eli Baker	East Jeddore	6	21 00
77,836	T. W. Smith	do	35	Chas. Beaver	Spry Bay	7	52 50
90,490	T. W. Wolf	do	31	Robt. Wolf, M.O.	W. Chezzetcook	8	46 50
90,494	Two Brothers	do	21	J. J. Gaetz, M.O	Seaforth	7	31 50
74,118	True Love	do	31	S. P. Slaunwhite	Terrence Bay	8	46 50
90,482	Two-Forty	do	18	G. H. Slaunwhite	do	3	23 62
61,946	Union	do	23	Colin Mitchell	Head Jeddore	7	34 50
57,662	Village Bride	do	24	Andrew Crawford	Hd. Chezzetcook	7	33 75
90,485	Violet West	do	36	C. Nieforth, M.O	Seaforth	10	54 00
90,488	Wave	do	19	Jno. Blackburn	Upper Prospect	5	28 50
88,222	Wave	do	15	Arch. Jollimore	Terrence Bay	3	19 68
83,042	Western Belle	do	23	Jno. Thomas	Herring Cove	8	34 50
92,578	Willetta	do	12	Joseph Gray	Sambro	3	18 00
66,727	Willow	do	18	Jeffry O'Gorman	Herring Cove	2	20 24
75,578	Wily	Lunenburg	13	James Morash, jr	West Dover	4	16 24
71,368	Zelu	Halifax	21	S. & A. Publicover	do	5	31 50
85,378	Zephyr	do	14	R. & W. Slaunwhite	Terrence Bay	2	15 74

INVERNESS COUNTY.

90,739	Arizona	Pt. Hawkesbury	49	W. H. & F. L. M. Paint	Pt. Hawkesbury	5	73 50
90,731	Annie E. Paint	do	80	do	do	10	100 00
75,783	Crescent	Arichat	27	Camille White	Margaree	9	40 50
88,343	Ceylon	Pt. Hawkesbury	80	W. H. & F. L. M. Paint	Pt. Hawkesbury	13	112 00
37,565	Defiance	do	24	Jno. Walker	Riv. Inhabitants	3	36 00
38,418	Dolphin	Arichat	36	C. Robin & Co., Limited	Cheticamp	8	54 00
83,082	Emma	Pt. Hawkesbury	24	Sévérin Arseneau	Margaree	7	36 00
41,925	Euxine	Arichat	38	Arsène Doucet	Grand Etang	9	51 81
83,088	Good Intent	Pt. Hawkesbury	22	George Walker	Basin, River Inhabitants	2	33 00
90,734	Helen M. Crosby	do	64	Peter Paint, jr	Pt. Hawkesbury	7	70 40
92,313	Martha	Liverpool	10	Eusèbe Chiasson	Eastern Harbour	4	15 00
69,125	May Flower	Halifax	11	P. Cormier, *et al*	Grand Etang	5	16 50

DETAILED STATEMENT of Fishery Bounties paid to **Vessels**, &c.—*Continued.*

INVERNESS COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
69,969	Morning Light	Pt. Hawkesbury	39	David Walker	Basin, River Inhabitants	5	58 50
69,959	Quickstep	do	35	Lewis Murray	Port Richmond	4	47 25
64,033	Ripple	do	34	J. W. Cruickshanks	do	4	51 00
83,096	St. Patrick	do	11	Allan Walsh	Port Hastings	3	14 43
75,830	St. Thomas	Guysboro'	38	Médéric Aucoin	Eastern Harbour	9	57 00
90,733	Saint Joseph	Pt. Hawkesbury	27	Jno. Desveau	Friar's Head	5	34 70
83,094	Saint Mary	do	15	Desiré Chiasson	Margaree	6	22 50
64,718	Temperance	do	26	Jno. McFarlane	do	8	39 00
92,567	Trial	Halifax	13	M. Chiasson & P. Gallant	do	5	17 87
73,962	Willie B	Liverpool	38	Wm. Delaney	Friar's Head	10	57 00

KING'S COUNTY.

94,727	Aurelia	Windsor	21	H. & J. Parker	Hall's Harbour	2	31 50
94,721	Dove	do	17	Sylvester Bolsor	Blomidon	3	25 50
75,430	Dolphin	Annapolis	11	Henry E. Ogilvie	Kingsport	3	16 50
92,499	Lorena Jane	Windsor	11	Willard Coffill	Blomidon	2	16 50
85,629	Unexpected	Parrsboro'	15	Fred. Parker	Hall's Harbour	2	22 50

LUNENBURG COUNTY.

94,790	Abana	Lunenburg	80	James Romkey, M.O.	LaHave	14	120 00
90,866	Alice	do	12	Solomon Richard	do	3	18 00
46,476	Amiel Corkum	do	52	Josiah Wilkie, M.O.	do	11	78 00
85,739	Aubrey A	do	80	Ben. Anderson	Lunenburg	14	120 00
94,783	Alaska	do	80	do M.O.	do	14	112 50
94,965	Alice B	do	65	Adnah Burns	LaHave	12	97 50
90,870	Arietis	do	80	Chas. Hewitt, M.O.	Lunenburg	14	120 00
83,176	Amazon	do	73	Edward Hirtle	do	11	104 93
92,621	A. G. Heisler	do	80	Alfred Heisler, M.O.	Lunenburg	14	120 00
90,864	Advance	do	80	S. Watson Oxner	do	17	120 00
94,778	Argosy	do	80	Chas. Smith, M.O.	do	16	120 00
90,600	Acadia	do	79	David Smith	do	12	118 50
90,852	Athlete	do	78	Jno. B. Young, M.O.	do	14	117 00
94,644	Angler	do	80	Arthur H. Zwicker	do	14	120 00
94,961	Altona	do	67	Emanual Zellers	do	13	100 50
94,648	Batavia	do	80	J. Spearwater, M.O.	LaHave	14	120 00
85,730	Beulah	do	80	Danl. Lohnes, M.O.	do	14	120 00
94,647	Bonus	do	80	Geo. Kreser	do	14	120 00
94,651	Bessie A	do	80	Rufus Oxner, M.O.	do	14	120 00
92,637	Bertie C. H.	do	80	Wm. Gilfoy	Lunenburg	14	120 00
94,784	B. C. Smith	do	80	Joshua Hirtle	do	16	120 00
94,782	Bona Fides	do	80	J. Joseph Rudolph	do	14	120 00
88,341	Blizzard	do	80	A. J. Wolf	do	16	120 00
85,347	Brilliant	do	80	John B. Young, M.O.	do	14	120 00
85,345	Beatrice	do	79	Wm. A. Zwicker	do	15	118 50
90,824	Ceto	do	80	James Conrad, M.O.	LaHave	14	120 00
94,643	Carrie M. C.	do	39	Norman Chandler	Fox Point	9	55 57
88,348	Cymbeline	do	80	J. N. Rafuse, M.O.	LaHave	11	120 00
94,652	Cashier	do	80	W. N. Reinhardt	do	16	120 00
90,856	Cleta	do	80	W. N. Reinhardt, M.O	do	14	120 00
90,857	Capio	do	72	Albt. McKean, M.O.	Pleasantville	12	108 00
94,645	C. A. Chisolm	do	80	Abraham Ernst	Mahone Bay	12	120 00
94,658	C. A. Ernst	do	57	do	do	12	120 00
94,653	C. U. Mader	do	80	C. U. Mader	do	12	120 00

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
85,642	Charlotte E. C	Lunenburg	80	C. U. Mader	Mahone Bay	12	120 00
90,869	Clara E. Mason	do	80	David Smith	do	12	120 00
94,646	Carrie C. W.	do	80	Martin Westhaver, jr.,	Martin's Brook	14	109 41
92,622	Coronet	do	80	Arthur H. Zwicker	Lunenburg	14	120 00
88,618	Darling	do	80	J. B. Sarty, M.O.	LaHave	13	115 71
42,505	Delight	do	48	James W. Zwicker	Mahone Bay	9	72 00
88,355	D. A. Mader	do	80	C. U. Mader	do	11	115 00
90,855	Delta	do	25	Joshua Knickle	Lunenburg	7	37 50
88,358	Dolphin	do	80	Howard Wynacht	do	10	102 84
85,736	Dominion	do	80	Wm. Young	do	14	120 00
94,650	Elsie	do	47	John Schmeisser, M.O.	LaHave	8	70 50
94,960	Eureka	do	80	Rueben Smith, M.O	do	14	120 00
83,136	Eva Stewart	do	80	Saml. Risser, M.O	do	13	120 00
88,606	Egeria	do	80	J. D. Sperry	Petite Rivière	15	120 00
75,569	Empress	do	47	Simon Pentz, M.O	LaHave	10	70 50
94,659	Enterprise	do	80	Robt. Dawson, M.O	do	14	120 00
90,584	Eldora	do	75	Wm. McGregor, M.O	do	8	112 50
88,356	Energy	do	80	A. Chisholm	Mahone Bay	14	120 00
85,731	Eva L. H	do	62	Jacob Hiltz	do	10	93 00
69,173	Ellen May	do	60	Abraham Ernst	do	8	90 00
90,590	Evelyn	do	77	Amiel Corkum	LaHave	12	115 50
66,749	Flash	Halifax	24	Robt. Coolen, sr	Fox Point	7	33 75
94,656	Florin	Lunenburg	58	Edward Weagle, M.O.	LaHave	12	76 12
94,957	Feronia	do	77	James Baggett	Martin's River	12	115 50
94,771	Florence M. Smith.	do	80	B. Anderson & G. A. Smith	Lunenburg	14	120 00
94,952	Finance	do	58	John Hines	do	10	87 00
88,357	Floresta	do	57	Stephen Moser, M.O	do	12	85 50
92,638	Florence M.	do	80	Alex. Silver, M.O	do	12	120 00
85,631	Forest Belle	do	80	Leonard Young	do	12	120 00
94,958	Genesta	do	80	Lemuel Romkey, M.O.	LaHave	14	120 00
94,963	Golden Seal	do	32	Chas. Bell, M.O.	do	7	48 00
90,862	Grenada	do	80	Reuben Romkey, M.O.	do	14	120 00
85,734	Glenola	do	80	Chas, L. Silver, M.O	Lunenburg	14	120 00
94,773	Galatea	do	80	Jno. B. Young, M O	do	14	120 00
88,347	Geneva	do	80	James Young	do	17	120 00
90,582	G. A. Smith	do	80	Wm. Young	do	14	120 00
90,859	Hector W. McG	do	80	Wm. McGregor, M.O.	LaHave	14	120 00
90,585	Iris	do	80	D. Smith, M.O.	Lunenburg	14	120 00
83,485	John M. Inglis	Liverpool	79	J. S. Wolf, M.O.	West Dublin	11	99 95
92,639	Jennie Miller	Lunenburg	80	Henry Adams, M.O.	Lunenburg	12	120 00
94,789	Joseph McGill	do	80	David Ritcey, M.O.	La Have	14	120 00
94,785	J. C. Schwartz	do	80	Chas. Hewitt, M.O.	Lunenburg	16	120 00
94,654	J. W. Geldert	do	80	S. Watson Oxner	do	17	120 00
85,723	Jessie A. Loye	do	80	Leonard Young	do	14	120 00
74,019	Jewel	do	52	do	do	10	78 00
36,495	Lady Speedwell	do	56	John H. Publicover	Blandford	5	84 00
88,352	Linaria	do	80	Sam. Hilton, M.O	Petite Rivière	14	120 00
88,360	Lettie M. Hardy	do	80	W. A. Pickels	Mahone Bay	20	120 00
94,788	Laura C. Zwicker	do	80	Abraham Ernst	do	12	120 00
90,854	Latona	do	80	L. Anderson, M.O	Lunenburg	12	120 00
94,780	Lawrence	do	80	Simeon Hebb	do	17	120 00
94,781	Leonora B. Winter.	do	80	Isaac Mason	do	14	120 00
90,867	Laura A. Smith	do	80	S. Watson Oxner	do	14	109 41
88,351	Louisa J. Selig	do	80	J. Moyle Rudolph, M.O	do	14	109 41
83,173	Maggie Smith	do	80	Reuben Smith, M.O	La Have	12	120 00
90,823	Miletus	Port Medway	80	John Shankle, M.O	do	14	120 00
94,772	Molega	Lunenburg	80	B. Anderson, M.O	Lunenburg	14	120 00
92,640	Minerva	do	80	Wm. C. Acker, M.O	do	12	120 00
94,775	Malabar	do	80	R. H. Griffiths, M.O.	do	14	120 00
92,633	Magnolia	do	80	Joshua Heckman, M.O	do	12	120 00
94,777	Maurice C. Geldert	do	80	Anthony Lohnes, M.O.	do	16	120 00

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty paid.
							$ cts.
83,177	Maggie Belle	Lunenburg	72	Martin Mason, M.O	do	12	108 00
94,951	Maggie McNeil	do	75	Frank L. McNeil	do	10	112 50
74,319	Merino	do	46	J. Joseph Rudolph	do	9	69 00
92,635	M. B. Smith	do	80	Wm. C. Smith, M.O	do	14	120 00
92,632	Monarch	do	80	Henry Wilson, M.O	do	14	120 00
90,586	Morris Wilson	do	80	do	do	14	120 00
94,655	Nevada	do	46	James Bell, M.O	La Have	9	69 00
88,603	Nokomis	do	80	C. U. Mader	Mahone Bay	14	120 00
88,342	Nova Zembla	do	80	Freem'n Anderson, M.O	Lunenburg	12	120 00
90,851	Niagara	do	73	Henry Gerhardt, M.O.	do	12	109 50
92,634	Nellie B.	do	80	Alfred Heisler, M.O	do	16	120 00
88,613	N. P. Christian	do	80	do	do	13	120 00
85,343	Narcissus	do	80	S. W. Oxner, M.O	do	14	120 00
94,966	Nicanor	do	79	D. Westhaver	Martin's Brook	13	118 50
92,636	Nonpareil	do	80	John Zinck	Lunenburg	17	120 00
75,570	Olive Branch	do	14	John Church	Aspotogan	3	21 00
88,346	Olive	do	80	Dan. Getson, M.O	La Have	14	120 00
94,641	Ovando	do	80	Jeffry Publicover	do	15	120 00
90,587	Ornatus	do	80	Albert McKean, M.O.	Pleasantville	12	120 00
94,954	Otto	do	80	Abraham Ernst	Mahone Bay	12	120 00
88,350	Orion	do	78	C. U. Mader	do	11	112 12
90,598	Osprey	do	80	Christian Geldert	Lunenburg	14	120 00
88,344	Onward	do	80	Charles Hewitt	do	12	120 00
85,632	Ocean Belle	do	80	James A. Hirtle	do	12	120 00
94,786	Ontario	do	80	Wm. Jefferson	do	17	120 00
85,562	Oressa	do	14	Arthur Mason, M.O	Eastern Point	4	21 00
94,779	O. P. Silver	do	80	Chas. L. Silver, M.O	Lunenburg	14	120 00
74,133	Pioneer	Halifax	80	David Mills	Chester	11	120 00
94,774	Puritan	Lunenburg	80	Theo. Creaser, M.O	La Have	14	120 00
77,622	Pleasantville	do	80	Albert McKean, M.O.	do	14	120 00
85,647	Pembina	do	80	L. Anderson, M.O	Lunenburg	15	120 00
85,641	Pleroma	do	80	John C. Corkum	do	16	120 00
85,331	Parisian	do	80	A. R. Morash, M.O	do	14	120 00
92,631	Ray	do	11	Henry Awalt	Aspotogan	3	16 50
90,593	Ralph	do	51	Solomon Smith, M.O.	La Have	10	76 50
92,320	Rialto	Liverpool	46	L. B. Currie, M.O	New Dublin	9	69 00
57,688	River Dale	Lunenburg	48	Lewis Strum	Mahone Bay	10	72 00
85,349	Rise Over	do	80	Wm. Smeltzer	Lunenburg	14	120 00
92,629	Sea Queen	do	21	George Young	Mill Cove	5	31 50
94,962	Stella E	do	80	Reuben Ritcey, M.O.	La Have	14	120 00
88,349	Senovar	do	80	Nathan Hiltz	Martin's River	14	120 00
94,787	Samoa	do	80	Joseph Dauphinee	Lunenburg	17	120 00
85,350	Saxon	do	79	James A. Hirtle	do	12	118 50
85,737	Scylla	do	80	James W. King	do	9	120 00
90,868	Sadie	do	79	C. Smith, M.O	do	14	118 50
94,955	Tioga	do	80	Louis S. Miller	LaHave	14	120 00
92,623	Torridon	do	80	Wm. McGregor, M.O.	do	14	120 00
35,886	Trial	Halifax	43	Album Corkum	Chester	5	45 70
94,657	T. W. Langille	Lunenburg	71	Francis Conrad	South	14	106 50
94,956	Venezuela	do	80	Wm. Mossman, M.O.	Kingsbury	14	120 00
83,164	Valiant	do	80	Ammon Ritcey, M.O.	LaHave	12	120 00
85,635	Vanilla	do	80	John M. Ritcey, M.O.	do	14	120 00
94,776	Volunteer	do	80	Wm. McGregor, M.O.	do	14	120 00
94,649	Valenar	do	80	Nathan Hiltz	Martin's River	12	120 00
85,338	Viola	do	80	Alf. Heisler, M.O	Lunenburg	14	120 00
85,334	Valorus	do	57	Benjamin Lohnes	do	12	85 50
88,353	Violet	do	80	David Smith, M.O	do	13	120 00
85,735	Victory	do	80	Leonard Young	do	14	120 00
90,597	Vivian	do	80	A. H. Zwicker	do	14	120 00
94,953	W. D. Richard	do	80	W. N. Reinhardt, M.O.	LaHave	17	120 00
88,614	Wilhelmina	do	54	Edward Neal, M.O	do	9	81 00
94,642	Winnie C	do	55	Edmen Walters	do	12	82 50

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

LUNENBURG COUNTY- *Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
94,967	White Cloud	Lunenburg	80	C. W. Mader	Mahone Bay	14	120 00
88,174	W. E. Young	do	80	Henry Wilson, M.O.	Lunenburg	14	120 00
	PICTOU COUNTY.						
38,510	Lily	Pictou	22	James R. Reid	Pictou	4	33 00
	QUEEN'S COUNTY.						
92,324	Arbutus	Liverpool	79	Colin McLeod, M.O.	Liverpool	14	118 50
85,482	Angola	do	80	J. C. Innes, M. O.	do	19	120 00
75,778	Coronila	do	64	Colin McLeod, M.O.	do	14	96 00
75,620	Cordelia	Shelburne	15	Oliver Tupper	Port Le Bear	4	22 50
85,344	Donzella	Lunenburg	80	Adam Selig	Vogler's Cove	14	120 00
35,622	George	Liverpool	30	Henry A. Rhynard	Brooklyn	4	40 50
90,825	Henry N. Batchelder	Port Medway	80	S. E. Teel	Vogler's Cove	14	109 42
83,494	Lizzie Wharton	do	80	W. R. Cohoon	Port Medway	16	116 48
83,316	Lottie	do	80	S. E. Teel	Vogler's Cove	14	109 42
83,493	Mary C.	Liverpool	80	A. W. Hendry, M.O.	Liverpool	18	120 00
75,762	May Queen	do	17	Joseph Winters	do	4	25 50
83,310	Myosotis	Port Medway	80	Asa Morin & Son	Port Medway	20	120 00
83,315	Mazurka	do	80	Wm. Vogler	East P. Medway	14	109 42
80,838	Ocean Bride	Lunenburg	20	Geo. M. Mack	Port Medway	5	25 72
92,325	Rattler	Liverpool	13	Wm. Rhynard	Brooklyn	3	15 60
83,500	Stella	do	10	Wm. A. Farquhar	Hunt's Point	3	15 00
83,314	Spartan	Port Medway	80	W. R. Cohoon	Port Medway	17	120 00
83,495	Utopia	Liverpool	80	James C. Innes, M.O.	Liverpool	15	120 00
	RICHMOND COUNTY.						
64,713	Amelia M.	Port Hawkesb'ry	14	Andrew Boudrot	Gros-Nez	3	21 00
83,086	Ada M.	do	20	Wm. Burke	River Bourgeois	5	27 50
77,544	Alpha	Arichat	41	Wm. LeVesconte	D'Escousse	11	61 50
38,501	B. Weir & Co.	do	25	Wm. Bissett	River Bourgeois	6	32 80
77,851	Buxom	Sydney	11	Daniel McGrath	L'Ardoise	3	16 50
75,561	Boreas	Lunenburg	41	John Colford	Port Richmond	6	61 50
35,996	Blue Bell	Arichat	25	D. Gruchy & Son	Poulamond	7	35 16
72,061	C. P. M.	do	22	Désiré Burke	River Bourgeois	5	28 30
74,100	Candid	do	23	do	do	7	34 50
43,109	Chatham Head	Miramichi, N.B.	24	Dominick Fougère	Poulamond	9	36 00
61,606	Edmund Russell	Arichat	28	F. L. Malzard	Arichat	6	39 00
75,616	Eliza Jane	Shelburne	22	Alex. Vigneau	Arichat	2	33 00
69,190	Emma	Arichat	47	A. J. Boyd	River Bourgeois	10	70 50
83,395	Elerie	Halifax	29	Chas. Boudrot	do	7	43 50
38,477	Elizabeth	Arichat	18	Placide Burke	do	6	27 00
61,617	Eva May	Guysboro'	29	Daniel Sampson	do	6	38 06
77,843	Elizabeth	Halifax	30	Isidore Sampson	do	8	45 00
77,822	Eliza Smith	Arichat	44	Léonie Poirier	Lw'r D'Escousse	11	66 00
74,116	Fama	Halifax	43	Wm. Levesconte	D'Escousse	10	64 50
83,399	Fannie R. C.	do	22	Peter Boudrot	River Bourgeois	7	33 00
57,733	Farewell	Arichat	23	Abram Sampson	West Arichat	2	34 50

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

RICHMOND COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid
							$ cts.
88,599	Guide	Halifax	38	Désiré Poirier	D'Escousse	10	57 00
90,735	Hector	Pt. Hawkesbury	11	Joseph Catherin	St. Peter's	3	16 50
38,326	Harriet	Arichat	26	Arthur Leblanc	Arichat	3	39 00
85,560	Jacques	Yarmouth	58	S. & F. Poirier	D'Escousse	13	87 00
88,454	Jubilee	Arichat	34	D. Gruchy & Son	Poulamond	9	51 00
80'972	John Vincin	Sydney	17	David Sampson	River Bourgeois.	6	25 50
83,135	J. B. M	Halifax	20	Abram Fougère	do	7	30 00
38,486	Julia	Arichat.	20	Louis Burk	do	6	30 00
83,091	Jennie	Pt. Hawkesbury	11	Isaac Dugas		2	16 50
38,516	Lady of the Lake	Arichat	25	Peter Landry, jun.	French Cove	7	37 50
72,071	Lumen Diei	do	20	Urbain Samson	River Bourgeois.	6	30 00
72,070	Lennox	do	46	D. Gruchy & Son	Poulamond	11	69 00
75,875	Linda and Lizzie	do	56	Wm. Le Vesconte	D'Escousse	14	84 00
88,455	Laura Victoria	do	39	Jno. Mauger	Cap la Ronde	11	58 50
38,459	Mary Ann	do	29	Alex. Petitpas	D'Escousse	9	43 50
46,082	Mary	Pt. Hawkesbury	43	D. Gruchy & Son	Poulamond	10	64 50
38,417	Messenger	Arichat	30	Dominick Fougère	do	9	42 75
38,413	Morning Star	do	25	Amable Pâté	River Bourgeois.	9	37 50
83,100	Morning Star	Pt. Hawkesbury	13	Abram Gerrior	Port Royal	2	19 50
69,109	Marcella Butler	Halifax	38	Daniel Fougère	River Bourgeois.	7	53 44
88,431	Mayflower	do	21	Stephen Dugas	do	3	23 64
72,047	Mary Moulton	Arichat	26	Celestin Cordeau	do	7	36 57
38,522	Mary	do	23	Isaiah Boudrot	do	4	25 86
85,388	Mary Alice	Halifax	21	Wm. Malcolm	Port Malcolm	3	*31 50
72,063	Mayflower	Arichat	12	M. Burke & M. Fougère	French Cove	4	16 20
72,048	Neptune	do	26	Henry Sampson	River Bourgeois.	6	36 21
42,388	Nimble	Halifax	45	P. W. Gruchy	D'Escousse	8	60 74
54,139	Ocean Belle	do	20	A. J. Boyd	River Bourgeois.	6	30 00
61,630	Olive J	do	57	Capt. P. Malcolm	Port Malcolm	9	85 50
38,462	Partners	Arichat	25	Thos. Samson	River Bourgeois.	8	37 50
38,414	Philomel	do	26	Mathurin Dugas	do	8	39 00
72,067	Philomen D	do	22	Tranquil Digout	do	6	33 00
88,452	R. Ferguson	do	24	A. J. McDonald	Lewis Cove	7	36 00
72,059	Richmond Queen	Halifax	37	Anselm Fougère	Poulamond	10	55 50
42,281	Renfrew	do	42	Simon Poirier	D'Escousse	10	63 00
74,335	Safe	Yarmouth	35	Samuel Burke	French Cove	10	50 12
51,781	S. E. Cove	Arichat	54	Peter Campbell	Arichat	12	81 00
36,521	Shooting Star	do	32	Wm. Le Vesconte	D'Escousse	10	48 00
37,612	Sea Slipper	Lunenburg	40	Chas. Mauger	do	11	60 00
38,480	Two Brothers	Arichat	32	Simon P. Landry	River Bourgeois.	6	42 00
61,990	Union	Halifax	20	Felix Burke	do	6	27 86
38,523	Victoria	Arichat	24	H. & P. Burke	French Cove	6	36 00
71,034	Vanguard	Barrington	47	Thos. Boudrot	Petit de Grat	10	70 50
61,921	W. E. Wier	Arichat	41	Chas. Fougère, M.O.	D'Escousse	10	58 71

SHELBURNE COUNTY.

94,632	A. C. Greenwood	Shelburne	14	Thos. D. Goodick	Sand Point	5	19 25
90,655	Annina	Yarmouth	11	Isaiah Smith	Wood's Harbour	7	16 50
83,054	Ardella	Shelburne	80	Jonathan Locke	Lockeport	16	120 00
88,552	Afton	do	72	do	do	15	104 63
85,479	Alina	do	80	Churchill Locke	do	9	84 51
85,567	Annie Robertson	Barrington	80	W. W. Kenney	do	15	110 01
88,551	Blanche M. Thorburn	Shelburne	80	Jno. H. Thorbourn	Jordan Bay	22	120 00

*NOTE.—This amount although reckoned as an expenditure was not paid to the claimants of schooner "Mary Alice," the claim having been found fraudulent after the cheques were issued and the account for the year closed.

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

SHELBURNE COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
85,490	Billy Brown	Shelburne	80	Enos Churchill	Lockeport	16	120 00
94,942	Coronilla	do	23	C. Locke & Co	do	8	34 50
61,905	Champion	Liverpool	14	Jos. W. Hopkins	Barrington	4	18 90
75,624	Devina	Shelburne	52	Wm. Lloyd	Lockeport	11	72 00
83,492	Dessie	Liverpool	11	Churchill Locke	do	4	14 85
83,043	Ella A. Downie	Shelburne	73	Enos Churchill	do	13	105 59
77,603	Eldon C.	Barrington	27	Jno. E. Hopkins	Barrington	10	40 50
75,558	Emma B	do	80	Wm. T. Wickens	do	20	120 00
83,047	Festina Lente	Shelburne	80	Wm. A. McDonald	Lockeport	16	110 55
85,476	Fleetwing	do	11	Edward Hammond	Jordan Bay	6	16 50
83,255	Floyd	Annapolis	20	Thos. D. Crowell	Shag Harbour	10	30 00
80,831	Glide	Lunenburg	16	Jacob Lloyd	West Head	6	24 00
88,555	G. C. Kelly	Shelburne	80	W. W. Kenney	Lockeport	17	120 00
85,478	Glenora	do	75	John Locke	do	14	112 50
85,568	Georgie Harold	Barrington	80	W. W. Kenney	do	16	120 00
85,563	Helena Maud	do	80	H. Doane	Barrington	20	120 00
85,570	Hattie Dell	do	80	W. W. Kenney	Lockeport	16	113 34
94,941	John Purney	Shelburne	80	John Purney	Shelburne	16	110 55
88,554	Jersey Lily	do	80	Enos Churchill	Lockeport	16	120 00
85,566	J. Lyons	Barrington	15	Thos. L. Banks	Barrington	4	18 76
77,761	Knight Templar	Shelburne	80	Enos Churchill	Lockeport	18	116 85
77,957	Kedron	Annapolis	21	Churchill Locke	do	5	31 50
61,837	Laughing Waters	Yarmouth	32	Raymond Wilson	Barrington	12	48 00
54,114	Lone Star	Halifax	29	C. Locke & Co	Lockeport	9	43 50
94,639	Libbie	Shelburne	80	Jno. A. McGowan, jun	Shelburne	16	120 00
85,488	Mabel Somers	do	80	Enos Churchill	Lockeport	16	120 00
85,484	Mellacoree	do	80	Geo. J. Thorbourne	Shelburne	18	114 00
85,477	Myrtle	Barrington	80	D. V. Kenney	Cape Island	19	120 00
75,560	Matilda	do	80	Arthur McGray	do	13	108 75
83,256	Marquis of Lorne	Annapolis	26	Churchill Locke	Lockeport	6	34 12
88,543	Max O'Rell	Shelburne	80	do	do	17	113 70
74,301	Minnihaha	Barrington	13	S. E. Countaway	Barrington	5	19 50
88,583	Mary O'Dell	Yarmouth	14	Jno. Sholes	Bear Point	6	21 00
74,365	Nova Stella	Shelburne	52	Wm. Lloyd	Lockeport	13	78 00
83,060	Nellie Morrow	do	80	C. Locke & Co	do	16	120 00
55,830	Oregon	do	20	Jno. C. McGray	Cape Sable Isl'd.	3	30 00
37,523	Snow Drop	Liverpool	29	James Crowell	Port La Tour	5	43 50
90,690	Sandalphon	Shelburne	80	C. Locke & Co	Lockeport	17	113 70
85,483	Sarah H. Seeton	do	80	do	do	19	117 00
59,496	Thetis	Lunenburg	41	do	do	13	61 50
77,759	Thomas Robertson	Shelburne	66	Stephen Giffin	Louis Head	10	99 00
88,542	Three Bells	do	80	Sephorus Thorburn	Jordon	19	120 00
77,744	Whip-poor-will	do	15	Jno. B. Harding	Rockland	6	22 50
85,487	Willie McGowan	do	80	Jno. A. McGowan, jun	Shelburne	23	120 00
85,541	Willie M	Yarmouth	24	Isaac Kendrick	Barrington	9	34 20
74,336	Zouave	Barrington	19	Jno. M. Shand	do	7	23 34

VICTORIA COUNTY.

77,858	Sambo	Sydney	14	Arthur Campbell	R. Side	3	21 00

YARMOUTH COUNTY.

80,627	Annie D	Yarmouth	71	Geo. D. D'Entremont	Pubnico	14	106 50
71,030	Arizona	do	80	Sylv. D. D'Entremont	do	14	120 00
61,595	Annie Louise	Shelburne	39	Harvey Goodwin	do	15	53 64

DETAILED STATEMENT of Fishery Bounties paid to **Vessels**, &c.—*Continued.*

YARMOUTH COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
80,647	Annie M. Bell	Yarmouth	64	James Amiro	West Pubnico	21	96 00
71,007	Alfarata	do	45	M. D'Entremont	Pubnico	17	67 50
75,733	Alfred	do	46	Parker, Eakins & Co.	Yarmouth	10	69 00
90,653	Alba	do	58	G. G. Sanderson	do	19	87 00
66,682	Brisk	do	67	Leon D'Eon	Pubnico	20	100 50
85,549	Byron	do	80	Byron Hines	do	18	120 00
80,605	Coral Leaf	do	71	Geo. B. Goodwin	do	14	106 50
85,536	Circassian	do	80	Jeremiah Gayton	Lower Argyle	16	120 00
69,217	Chlorus	do	57	A. F. Stoneman & Co.	Yarmouth	14	80 16
66,679	Diploma	do	80	Louis D'Eon	Pubnico	15	116 25
90,883	Donald Cann	do	80	H. B. Cann	Yarmouth	18	120 00
90,871	Dora	do	63	A. F. Stoneman & Co.	do	18	92 01
88,552	Edith A.	do	80	Geo. D. D'Entremont.	Pubnico	15	120 00
80,646	Emma S	Yarmouth	80	Geo. Bates	Yarmouth	21	120 00
53,811	Electric Flash	Halifax	53	David D'Entremont	Pubnico	19	79 50
85,551	Ethel	Yarmouth	80	J. H. Porter & Co	Tusket Wedge	17	116 67
90,654	Flora	do	64	David D'Entremont	Pubnico	20	96 00
75,720	Florence B. Parr	do	80	Parker, Eakins & Co.	Yarmouth	17	120 00
94,972	Florence	do	11	Joshua Boudreau	Tusket	2	16 50
90,885	Georgiana	do	80	Eli Leblanc	Tusket Wedge	16	120 00
80,643	Hazel Dell	do	80	Parker, Eakins & Co.	Yarmouth	14	120 00
85,554	Hazel Glen	do	80	T. J. Perry	Arcadia	16	120 00
90,647	Hattie Emeline	do	11	Peter A. Amiro	Pubnico	2	16 50
80,641	Jonathan	do	68	David L. Amiro	do	17	102 00
88,581	Kingfisher	do	47	A. F. Stoneman & Co.	Yarmouth	17	70 50
71,005	Kelso	do	80	J. H. Porter & Co.	Tusket Wedge	19	120 00
90,887	L'Etoile	do	48	do	do	16	72 00
80,614	Louise	do	80	do	do	16	120 00
80,632	Lumen	do	30	do	do	13	45 00
90,888	Laura I	do	54	Chas. M. Boudreau	do	18	81 00
61,587	Lucretia Jane	do	80	A. M. Perrin	Yarmouth	17	120 00
80,624	Lima	do	12	Henry Lewis	do	5	18 00
51,972	Lydia Ryder	do	57	Louis D'Entremont	W. Pubnico	18	76 48
80,648	Maria	do	30	Byron Hines	Pubnico	20	120 00
88,596	M. A. Louis	do	63	Marc A. Surette	do	20	94 50
61,510	Mansimalo	Shelburne	50	Remi D'Entremont	W. Pubnico	13	64 60
75,550	Martino	Barrington	11	A. A. Amiro	L. E. Pubnico	5	15 13
94,635	Mildred J. McLean	Yarmouth	80	H. B. Cann	Yarmouth	18	120 00
74,339	Maitland	do	44	Henry Lewis	do	16	66 00
90,874	Maggie Bell	do	10	Doctrove Surette	do	4	11 79
90,892	Nellie	do	59	J. H. Porter & Co	Tusket Wedge	18	88 50
74,330	Nokomis	do	68	T. R. Crosby	Yarmouth	13	98 36
90,659	N. A. Laura	do	59	Julien D'Entremont	W. Pubnico	20	88 50
85,553	Onyx	do	80	Parker, Eakins & Co.	Yarmouth	18	120 00
80,645	Opal	do	80	do	do	16	120 00
74,332	Proditor	do	54	Zachariah D'Eon	W. Pubnico	18	78 87
80,628	Roseneath	do	80	Byron Hines	Pubnico	16	120 00
74,323	Regina	do	57	Archange D'Entremont	do	15	78 39
75,724	Sea Foam	do	75	J. H. Porter & Co	Tusket Wedge	14	112 50
85,535	Sigefroi	do	40	do	do	15	60 00
90,648	Stranger	do	15	Alf. H. D'Entremont	Pubnico	6	20 90
90,894	Theresa	do	18	Eli Bourque	Eel Brook	2	16 50
90,881	Tiger	do	57	G. G. Sanderson	Yarmouth	17	81 00
88,597	Unde Sam	do	80	Geo. D. D'Entremont	Pubnico	16	120 00
90,882	Will-o-the-Wisp	do	51	Anthony D'Entremont	do	19	76 50
66,685	Wide Awake	do	77	A. F. Stoneman & Co.	Yarmouth	14	115 50
90,896	Wapiti	do	80	do	do	18	120 00
90,897	Wrasse	do	56	do	do	15	75 16
71,334	Watchman	Barrington	15	P. L. Walker	Tusket	6	20 90

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
88,288	Annie May	St. Andrews	11	Lewis Frankland	Grand Manan	2	13 75
92,487	Alice Maud	Windsor, N.S.	12	James Barry	Beaver Harbour.	3	18 00
83,478	Argyle	St. Andrews	10	Joseph Murphy	Le Tête	3	15 00
83,469	Austin P	do	12	Jno. Marshall	Deer Island.	4	18 00
92,517	Ada	do	10	Wm. Philips	Campobello	2	15 00
75,599	Blue Jay	Digby, N.S.	14	Eben. Gaskill	Grand Manan	4	21 00
59,311	Blooming Rose	St. Andrews	19	Aaron Cook	Deer Island	5	28 50
88,290	Crusoe	do	13	James Starkey	St. Andrews	3	19 50
92,519	Catherine	do	13	Alex. McKenzie	Grand Manan	2	14 62
88,387	Comet	Windsor, N.S.	10	Thos. Carter	Red Head	2	15 00
35,338	Caroline	St. Andrews	18	Henry Stuart	Deer Island.	4	24 30
59,375	Cadet	do	13	Chas. Savage	Wilson's Beach.	3	19 50
88,409	Carrie	Digby, N.S.	12	James McLeese	Back Bay.	2	15 00
74,326	Dreadnaught	Yarmouth, N.S.	19	Wm. Mathews	Campobello	4	28 50
92,515	Dispute	St. Andrews	13	Melvin Patch	do	3	19 50
92,503	Defiance	do	17	Frank Calder	do	4	25 50
88,253	E. B. Colwell	St. John	19	Geo. F. Paul *et al.*	Beaver Harbour.	3	28 50
80,803	Exenia	Windsor, N.S.	18	Wm. F. Parker *et al.*	Cornwallis, N.S.	4	27 00
59,373	E. M. Oliver	St. Andrews	14	Wm. J. & Jas. Oliver, jr.	Back Bay.	1	13 12
88,280	E. B. Lane	do	12	Theo. H. McConnell	do	2	15 00
88,281	Eastern State	do	22	Nelson W. Dick *et al.*	Le Tête	3	33 00
92,505	Edith R.	do	47	Lincoln Richardson	West Isles	8	70 50
77,968	Empress	do	14	G. & M. Caffay	Mace's Bay	3	21 00
92,516	Emma	do	22	Wm. Shaw *et al.*	Lepreaux	3	26 40
92,502	Elizabeth Ann	do	14	Thos. Haggerty	New River	4	18 90
80,882	Ella Mable	do	14	Daniel Calder	Campobello	3	21 00
92,511	Fleet Wing	do	11	Addison Matthews	St. George	2	16 50
59,400	Foam Belle	do	10	Thos. Ellsworth *et al.*	Pennfield	3	15 00
79,963	Freeman Colgate	do	26	Aretas English	Deer Island.	6	39 00
59,393	Fannie	do	12	James A. Greenlow	Lord's Cove.	3	14 40
88,276	Falcon	do	12	Wm. Brown	Wilson's Beach.	3	18 00
94,834	Flora Woster	do	22	Henry Burnham	Grand Manan	3	33 00
92,508	Grey Eagle	do	13	Nehemiah Mitchell	Campobello	3	19 50
59,396	Gurtie Westbrooke	do	16	James Cline	Deer Island.	5	22 00
75,728	George Killam	Digby, N.S.	30	Sidney L. Justason	Pennfield	5	45 00
94,835	Georgie Linwood	St. Andrews	25	Joshua Hawkins *et al.*	do	5	37 50
80,650	Happy Home	Yarmouth, N.S.	14	Michael Nodding	Beaver Harbour.	3	21 00
75,587	Happy Return	Weymouth, N.S.	13	Daniel Campbell	Dipper Harbour.	3	15 60
59,394	Hattie	St. Andrews	10	Chas. Harkins	do	3	15 00
83,463	Havelock	do	33	Wm. James	Wilson's Beach.	4	49 50
83,465	Look Out	do	48	Alf. W. Ingersoll	Grand Manan	4	64 80
83,464	Little Annie	do	19	E. & J. Holmes	Le Tête	5	28 50
51,734	Lavinia	do	13	Lewis Stanley	North Head	3	15 60
59,118	Linnet	St. John	29	H. & C. Trynor	Beaver Harbour.	4	43 50
59,399	Leona	St. Andrews	12	David Lasley *et al.*	Back Bay.	3	15 75
59,395	Little Minnie	do	11	Joseph McGee	do	2	13 75
59,342	Lizzie S. McGee	do	14	Andrew McGee	do	4	18 90
88,273	Lillian E.	do	13	do	do	2	14 62
83,474	Letter B.	do	12	Sophia Cook	Le Tête	3	18 00
59,388	Letitia	do	10	Frank Johnson	Deer Island.	3	13 13
75,598	Lizzie Jane	Digby, N.S.	18	Gilbert Green	West Islands	5	24 75
77,965	Lydia B.	St. Andrews	12	Jno. M. Calder	Campobello	3	18 00
59,321	Little Nell	do	21	Wm. McLallan	do	6	31 50
80,881	Lena May	do	18	George Kirkpatrick	do	4	27 00
88,407	Linnet	Digby, N.S.	15	Alva Brown	Wilson's Beach.	3	22 50
83,472	Lindon	St. Andrews	12	Oliver G. Brown	do	2	18 00
77,970	Mary Emeline	do	18	Calvados Brown	do	3	27 00
88,271	Magellan Cloud	do	20	Simon Brown	do	5	30 00
59,125	Mount Whatley	St. John	28	Hugh Belmore	Dipper Harbour.	3	36 75

DETAILED STATEMENT of Fishery Bounties paid to **Vessels**, &c.—*Continued.*

CHARLOTTE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
92,514	Maggie Jane	St. Andrews	10	Victoria A. Cook	Mascarene	3	15 00
59,326	Maud Holmes	do	21	Jocob Cook	Le Tête	3	25 20
38,109	Mary	Yarmouth, N.S.	16	James Thompson	Black's Harbour.	2	20 00
85,442	Mystery	Windsor, N.S.	14	E. & S. Munroe	Beaver Harbour.	3	21 00
88,277	Maggie Jane	St. Andrews	18	S. B. & A. Cross	Pennfield	3	21 60
92,501	Maybe	do	11	Jno. Kelly	White Head	2	13 75
88,402	Mizpah	Digby, N. S.	52	Eben Gaskill	Grand Manan	9	68 25
94,833	Newsboy	St. Andrews	16	Ernest Lank	Wilson's Beach.	2	18 00
77,967	Naomi	do	14	Wm. James	do	3	21 00
75,602	Ocean Lily	Digby, N. S.	17	Thos. Mitchell	Campobello	6	25 50
94,837	Olga	St. Andrews	11	Lincoln Richardson	West Isles	2	13 75
75,716	Onward	Yarmouth, N. S.	10	John Watt	North Head	3	15 00
92,518	Peril	St. Andrews	18	Martin Eldridge, *et al.*	Pennfield	3	23 62
59,383	Pilgrims Progress	do	16	Arthur Porter	Campobello	3	24 00
75,591	Rise and Go	do	16	Wm. Sirles	do	3	24 00
75,547	River Rose	Barrington, N.S.	13	E. C. Bowers	Westport, N. S.	3	19 50
88,287	Satellite	St. Andrews	26	Milton Eldridge, *et al.*	Pennfield	5	39 00
88,284	Sea Foam	do	13	Dan'l Leavitt	L'Etang	2	19 50
88,272	Simeon H. Bell	do	14	Edward Mathews	Le Tête	3	21 00
59,357	Silver Bell	do	13	John Malloch	Wilson's Beach.	3	19 50
59,387	Telephone	do	19	Joseph McGee	Back Bay	6	26 47
88,414	Trumpet	St. John	20	Andrew Holmes	Beaver Harbour.	4	27 00
92,504	Tiger	St. Andrews	15	J. & Geo. Nesbitt	North Head	3	22 50
83,468	Village Belle	do	15	Allan P. Dixon	do	4	22 50
88,282	Veritas	do	10	Chas. Mathews	Le Tête	3	15 00
35,331	Victor	do	16	Frank Campbell	Dipper Harbour	5	24 00
94,832	Venus	do	42	Simon Brown	Wilson's Beach.	7	63 00
77,969	Wave Queen	do	11	Wm. McMahon	Le Tête	2	12 38
83,427	Zoulu	Weymouth, N.S.	12	Eben Gaskill	Grand Manan	4	18 00

GLOUCESTER COUNTY.

92,419	Anna	Chatham	12	Docité Chiasson (Jos).	Lamèque	4	18 00
72,099	Adelina	do	12	Auguste Poulin	do	3	18 00
96,725	Bessie T	do	10	C. C. Turner	Tracadie	3	15 00
72,079	Betsy	do	13	Sebastien Noel	Little Lamèque	3	19 50
61,431	Bee	do	11	Paul Noel	Lamèque	4	16 50
61,409	Belmont	Miramichi	13	Angus McLean	Bathurst	2	16 25
92,412	Dollie Dutton	Chatham	13	J. & R. Young	Tracadie	3	17 07
96,723	Emma	do	15	Ludger Duguay	Shippegan Is'ld.	3	22 50
92,417	Evangeline	do	11	Jno. & R. Young	Tracadie	5	16 50
61,445	Flavie	do	13	Theophile Duguay	Lamèque	3	19 50
61,437	Flying Fish	do	11	Eli Chiasson	Little Lamèque	3	16 50
92,418	Grip	do	12	James Davidson	Tracadie	4	18 00
61,425	Hope	do	13	R. Robin	Caraquet	3	17 07
96,724	Isabel	do	11	Peter Noel	Lamèque	3	16 50
92,420	Mary Louise	do	13	Wm LeBreton	Pokemouche	3	17 06
88,669	Morning Star	do	12	Gustave Gionet	Ste. Rose	3	18 00
92,413	Mary Jane	do	14	Theodore Savoy	Tracadie	4	21 00
61,442	Marie Cécile	do	15	Oliver Duguay	Lamèque	4	22 50
72,100	Marie	de	11	Onesime Chiasson	do	3	16 50
61,447	Merida	do	13	André Aché, sr	do	3	19 50
33,652	Marie Louise	New Carlisle	16	Nap. H. Roy	Petit Rocher	3	24 00
85,692	Mary	Chatham	11	Jos. N. LeBoutillier	Caraquet	3	16 50
92,403	Maria	Miramichi	25	Ubalde Landry	Grande Anse	4	37 50
72,076	Providence	Chatham	12	Eutrope Duguay	Shippegan	3	18 00
61,406	Reward	do	11	Jos. N. LeBoutillier	Caraquet	3	16 50
96,727	Ryse	do	11	Jeremiah Aché	Shippegan	3	16 50
61,438	Rosane	do	13	Lange Duguay	Petit Lamèque	4	19 50

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

GLOUCESTER COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
92,404	Rosa	Chatham	17	Octave Aché, sr	Lamèque	4	25 50
85,696	Rose	do	11	Mara Basque	Tracadie	3	16 50
92,408	Sarah A. W.	do	15	Robt. J. Wilson	Wilson's Point	3	22 50
74,401	Sara	do	11	Nazaire Noel	Lamèque	3	16 50

KENT COUNTY.

83,105	Katie Bell	Richibucto	11	Jno. Bell	Richibucto	4	16 50
83,104	Minnie Long	do	20	Wm. Long	do	2	25 00
61,411	Telegraph	do	20	Frank Hawes	Kingston	4	30 00

NORTHUMBERLAND COUNTY.

61,417	Belle	Miramichi	12	James Bremner	Chatham	3	18 00
75,904	Empress	Chatham	26	Robert R. Call	do	6	39 00
88,668	General Middleton	do	67	William S. Loggie	do	13	96 92
75,891	May Queen	do	23	R. R. Call	do	4	34 50
74,368	Maggie Roach	do	44	William S. Loggie	do	13	66 00
78,044	Princess Louise	do	21	R. R. Call	do	5	31 50
75,895	Two Brothers	do	26	do	do	6	39 00
72,091	White Wings	do	19	Thomas B. Williston	Baie du Vin	4	28 50

RESTIGOUCHE COUNTY.

80,950	Jessie	Chatham	14	Simon McGregor	Dalhousie	3	21 00

ST. JOHN COUNTY.

80,093	Anna K.	St. John	14	William Spence	Portland, N.B.	4	21 00
72,246	Alpha	do	21	C. & J. Cobham	Carleton	3	27 56
79,977	Amanda Green	do	15	Sam'l Hutton	do	3	22 50
57,171	Anna Bell	St. Andrew's	19	William Stinson, *et al*	Pisarinco	4	28 50
72,192	Ada	St. John	19	J. K. Ferguson, *et al*	do	4	28 50
80,072	Buena Vista	do	14	John McNulty, sen	Musquash	3	21 00
85,972	Dove	do	11	Samuel Maguire	Pisarinco	3	16 50
99,926	Emma	do	13	David Thompson	Musquash	3	15 60
85,503	G. P. Taylor	do	14	D. G. Toole, *et al*	Carleton	3	21 00
57,181	Hattie	Windsor, N.S.	13	S. & J. J. Galbraith	Pisarinco	4	19 50
83,259	Hettie May	Annapolis, N.S.	15	John Butler	Musquash	5	22 50
88,261	Little Joe	St. John	18	Joseph O'Brien	Carleton	4	27 00
88,266	Lizzie Young	do	13	Nathaniel Young	Pisarinco	5	19 50
52,159	Mary E.	do	21	Frederick Buchanan	Carleton	4	31 50
72,973	Sea Breeze	Digby, N.S.	13	Daniel Tolan, *et al*	Musquash	5	19 50
59,322	Sea Flower	St. John	11	James Thompson	do	3	16 50
59,156	Tom	do	14	Peter Boyle	do	5	21 00
59,313	U. S. Grant	Yarmouth, N.S.	33	J. & R. Hutton	Carleton	5	49 50
80,630	Vanity	do	14	Wallace E. Belding	Musquash	5	16 50
72,321	Widgeon	St. John	10	James Kennedy	St. John	2	12 50
88,264	Walter J. Clarke	do	20	George H. McAuly	Carleton	5	30 00

DETAILED STATEMENT of Fishery Bounties paid to **Vessels**, &c.—*Continued.*

PRINCE EDWARD ISLAND.

KING'S COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
66,428	Albert	Charlottetown	40	James A. Herring	Murray Harbour	5	60 00
66,242	Amorette	do	18	Peter Roberts	do	5	27 00
69,132	Belle of the Bay	Guysboro'	20	Isaac Kirby	do	6	30 00
92,675	Can't Help it	Pictou, N.S.	39	John Herring	do	6	58 50
83,196	Ethel Blanche	do	12	Reuben Cahoon	do	4	18 00
71,412	Emerald	Charlottetown	25	James Burke	Georgetown	1	21 42
88,644	Hattie	do	18	Henry Dicks	Murray Harbour	4	27 00
83,198	Harriet	Pictou, N.S.	27	William Reynolds	do	8	40 50
75,566	Julia A	Lunenburg, N.S.	15	James McKinnon	do	4	22 50
92,458	Jubilee	Charlottetown	76	Malcolm McDonald	Georgetown	15	110 44
75,882	Lord McDonald	do	15	David Cahoon	Murray Harbour	4	22 50
83,095	Mary Margaret	Port Hawkesbury, N.S	17	John Cahoon	do	4	25 50
80,937	Montague	Charlottetown	16	Michael Jackson	do	4	24 00
90,639	Morell	do	16	Edward Delcry	Georgetown	1	15 00
88,230	Morning Light	Halifax, N.S.	28	Julius Cox	Morell	5	42 00
92,469	Nutwood	Charlottetown	80	John McLean	Souris	14	112 50

PRINCE COUNTY.

72,081	Annie	Chatham, N.B.	13	John McDonald	Campbelton	2	19 50
71,310	Black Watch	Charlottetown	23	Benjamin Perry	Kildare	5	34 50
82,086	Charlie	do	64	J. H. Myrick & Co.	Tignish	12	81 90
88,642	Express	do	46	John Champion	Alberton	13	69 00
55,829	Emma McMillan	Pictou, N.S.	20	John Coughlan	Campbelton	3	30 00
80,946	Janet A	Chatham, N.B	29	Donald Hanrihan	Tignish	4	43 50
66,948	Lois	Charlottetown	67	John A. Matheson	Campbelton	12	93 32
59,663	Lettie	do	57	J. H. Myrick & Co.	Tignish	15	85 50
92,455	Mikado	do	38	Terrence Farrell	Alberton	4	44 79
77,619	Milford Guy	do	60	James S. Gordon	do	12	90 00
74,155	Maggie McBeth	do	26	J. P. Thompson	Campbelton	5	39 00
72,087	Spy	Chatham, N.B.	18	Isaac Lewis	Alberton	2	20 24

QUEEN'S COUNTY.

92,464	Eliza M	Charlottetown	17	William Bell	New London	4	21 26
92,466	G. H. Gardiner	do	17	E. Marshall	N. Rustico	6	25 50
94,993	Onward	do	15	William Keizer	Tracadie	6	22 50

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—*Continued.*

PROVINCE OF QUEBEC.

GASPÉ COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							$ cts.
73,495	Canadienne.	Halifax, N.S.	53	J. N. Arseneau	Amherst	9	69 54
55,642	Delaney	Magdalen Isl'ds.	44	Camille Delaney	House Harbour.	8	52 25
58,391	Esperance	do	31	Célestin Boudreau	Aubert	8	43 91
71,357	Emma Gidney	Halifax, N.S.	47	Damien Devaux	do	10	70 50
77,604	E. D. Myra	Lunenburg, N.S.	43	F. H. Delaney	House Harbour.	10	59 12
73,029	F. P. T.	Magdalen Isl'ds.	41	Camille Delaney	do	8	55 34
85,393	Formosa	do	43	P. P. Delaney	do	10	59 12
77,612	Gold Hunter	do	41	Edwd. Bourque	do	7	52 26
73,024	Marie Enésie	do	47	W. G. Leslie	Grindstone	8	58 74
73,025	Marie Euphrosyne	do	39	Jno. Binet	Etang du Nord.	9	51 18
73,493	Marie Joseph	do	56	Philippe Gaudin	House Harbour.	7	66 50
73,491	Mary Jane	do	47	Jno. Binet	do	8	58 74
75,577	Mary Ann Bell	Lunenburg, N.S.	33	Jno. Arseneault	do	7	44 00
73,021	Marie Anne	Magdalen Isl'ds.	46	do	do	10	63 24
38,351	Nancy	Arichat, N.S.	17	Alcide Cormier	Amherst	3	25 50
73,028	Richard B.	Magdalen Isl'ds.	32	Herbert Taker	Grosse Ile	1	26 40

SAGUENAY COUNTY.

57,742	Acara	Halifax, N.S.	30	Fred. Jomphe	Esquimaux Pt.	7	45 00
42,436	Amelia	Gaspé	50	P. Cormier & Bros.	do	10	75 00
74,270	Amarilda	Quebec	24	L. & M. Pineau	Bic	4	36 00
59,468	Busy	do	39	Vigneau & Blais	Esquimaux Pt.	7	58 50
63,370	C. M. G. P.	do	46	G. Picard	do	10	69 00
61,966	D. Cronan	Halifax, N.S.	40	P. Lemarquand	do	8	60 00
66,028	Emerillon	Quebec	14	Auguste Michaud	Isle Verte	4	21 00
80,754	Eugénie	do	48	Vigneau & Blais	Esquimaux Pt.	8	72 00
59,909	Elizabeth	do	27	Luc Cormier	do	7	40 50
85,459	Florida	do	13	Wm. Michaud	Isle Verte	2	19 50
75,679	Gleaner	do	41	S. Landry & Bros.	Esquimaux Pt.	9	61 50
85,750	H. B.	do	57	H. & J. B. Boudreau.	do	8	85 50
85,753	Java	do	46	Dom. Cormier	do	11	69 00
42,435	Labrador	Gaspé	43	P. Doyle & Bros.	do	8	64 50
77,868	Léodore	Quebec	39	F. X. Corriveau.	do	8	58 50
55,863	Marie Adelmina	do	13	C. Levesque	Isle Verte	5	19 50
80,766	Marie Anne.	do	17	Thos. Riverin	Malbaie	3	25 50
77,886	Marie Laure Attala	do	27	P. Michaud	Isle Verte	3	40 50
69,584	Marie Louise	do	23	Narcisse Rioux.	Quebec	3	34 50
55,912	Marie Louise	do	14	Pierre Ouelette	do	4	21 00
69,380	Marie Anne	Gaspé	35	Dominique Landry	Esquimaux Pt.	7	52 50
42,434	Marguerite	do	27	Michel Giasson	do	6	40 50
69,382	Marie du Sacré Cœur	do	46	Turbis, Briand & Landry	do	10	69 00
77,866	Pioneer	do	39	Picard & Lebrun	do	9	58 50
75,445	Phœnix	do	28	P. Vigneau & Bros.	do	7	39 37
42,437	Progress.	do	52	Boudreau & Leblanc	do	7	78 00
83,360	Ste. Anne	do	13	Pierre Fraser	N. D., Isle Verte	2	19 50
73,026	Ste. Anne	do	20	do	Isle Verte	2	30 00
75,680	Sea Star	Quebec	52	Jude Poirier	Betchouan	9	78 00
80,753	Stella Maris	do	51	L. Cummings & Bros.	Esquimaux Pt.	10	76 50
69,659	St. Joseph	do	18	Turgeon & Corriveau.	do	6	27 00
69,591	Ste. Marie	do	37	Alex. Scherrer	do	7	55 50

The following Vessel claims for 1888, held in abeyance, were paid in 1889–90.

PROVINCE OF NOVA SCOTIA.

HALIFAX COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount Paid.
							$ cts.
57,727	Agnes	Halifax	21	John Hayes	Herring Cove	6	31 50
90,496	Black Prince	do	18	Jas. W. Slaunwhite	Terence Bay	4	24 30
75,806	Can't Help It	do	57	Wm. Beazley	Ferguson's Cove	13	85 50
61,629	Carrie R	Guysboro'	16	James Reyno	Herring Cove	1	15 00
90,481	Ella D	Halifax	32	Archd. Darrah	do	7	48 00
85,644	Flora	do	41	Patrick Scallion	do	10	61 50
77,786	Hesperus	do	16	Joseph Reyno, sen	do	4	21 60
83,135	J. B. M	do	20	Henry Brown	do	4	30 00
61,939	Margaret	do	22	Frs. G. Henrion	Ferguson's Cove	4	33 00
64,018	Ocean Bride	do	23	Mathew Lynch	do	8	34 50
53,551	Roving Bird	do	24	John Brown	Herring Cove	6	36 00
64,869	Sarah L. Oxner	do	33	Edward Hayes	do	8	49 50
53,600	Star Light	do	29	Mark Power	do	8	43 50
77,836	T. W. Smith	do	34	Wm. Hayes	do	8	48 16

PROVINCE OF NEW BRUNSWICK.

NORTHUMBERLAND COUNTY.

59,371	A. J. Franklin	St. Andrews	53	W. S. Loggie	Chatham	8	60 95

PROVINCE OF PRINCE EDWARD ISLAND.

KING'S COUNTY.

92,452	Ella Blanche	Charlottetown	76	McEachern & Co	Souris	11	98 80
90,621	Maggie Alice	do	79	James Lanigan	do	7	83 61
92,469	Nutwood	do	80	John McLean	do	16	120 00
90,632	Samuel Drake	do	67	do	do	10	83 75

COMPARATIVE STATEMENTS.

Comparative Statement of Fishing Bounties Paid, from 1882 to 1889, inclusive.

Number.	Province.	County.	1882.			1883.			1884.			Number.
			Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
1	Nova Scotia	Annapolis	472 00	1,998 00	2,470 00	838 00	1,207 50	2,045 50	648 00	1,503 50	2,151 50	1
2		Antigonish	.....	840 00	840 00	.....	482 50	482 50	.....	799 50	799 50	2
3		Cape Breton	294 00	5,167 00	5,461 00	436 00	2,853 50	3,289 50	383 00	3,909 00	4,292 00	3
4		Colchester	.....	.....	.....	.....	.....	.....	64 00	.....	64 00	4
5		Cumberland	.....	20 00	20 00	.....	.....	.....	.....	7 50	7 50	5
6		Digby	1,436 00	4,118 66	5,554 66	2,652 00	2,182 50	4,834 50	3,322 84	2,234 50	5,557 34	6
7		Guysboro'	2,380 73	7,913 75	10,294 48	2,914 00	4,645 00	7,559 00	3,371 90	6,485 50	9,857 40	7
8		Halifax	3,599 50	11,118 31	14,717 81	6,020 00	6,080 50	12,100 50	5,834 00	7,898 00	13,732 00	8
9		Inverness	950 00	5,432 00	6,382 00	572 00	3,422 50	3,994 50	1,208 00	4,522 00	5,730 00	9
10		King's	46 00	125 00	171 00	146 00	157 50	303 50	196 00	70 50	266 50	10
11		Lunenburg	15,161 03	3,112 00	18,273 03	17,658 00	1,850 00	19,508 00	19,648 24	3,162 00	22,810 24	11
12		Pictou	202 00	95 00	297 00	202 00	120 00	322 00	177 76	107 50	285 26	12
13		Queen's	1,638 00	1,917 00	3,555 00	1,826 00	810 00	2,636 00	2,408 00	836 50	3,244 50	13
14		Richmond	3,853 15	7,998 50	11,851 65	3,558 00	4,225 00	7,783 00	3,266 58	6,325 00	9,591 58	14
15		Shelburne	7,294 00	4,332 00	11,626 00	8,744 00	2,326 50	11,070 50	8,928 27	2,781 50	11,709 77	15
16		Victoria	284 00	4,861 00	5,145 00	492 00	2,830 50	3,322 50	60 00	4,045 50	4,105 50	16
17		Yarmouth	7,825 09	1,615 00	9,440 09	9,486 00	695 00	10,181 00	9,758 00	971 50	10,729 50	17
18		Totals	45,435 50	60,663 22	106,098 72	55,544 00	33,888 50	89,432 50	59,274 59	45,659 50	104,934 09	18
19	New Brunswick	Charlotte	2,140 00	5,641 00	7,781 00	2,380 00	2,830 00	5,210 00	2,792 00	3,035 00	5,827 00	19
20		Gloucester	422 00	5,368 00	5,790 00	492 00	3,568 50	4,060 50	508 00	4,799 00	5,307 00	20
21		Kent	768 00	965 00	1,733 00	266 00	1,197 50	1,463 50	246 00	764 50	1,010 50	21
22		Northumberland	.....	45 00	45 00	68 00	52 50	120 50	66 00	68 00	134 00	22
23		Restigouche	28 00	.....	28 00	52 00	.....	52 00	.....	.....	.....	23
24		St. John.	984 00	591 00	1,575 00	861 20	587 50	1,448 70	956 00	260 00	1,216 00	24
25		Westmoreland	.....	45 00	45 00	.....	40 00	40 00	.....	81 50	81 50	25
26		Totals	4,342 00	12,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00	26

Comparative Statement of Fishing Bounties Paid, from 1882 to 1889, inclusive.

Number.	Province.	County.	1882. Vessels. Amount.	1882. Boats. Amount.	1882. Total.	1883. Vessels. Amount.	1883. Boats. Amount.	1883. Total.	1884. Vessels. Amount.	1884. Boats. Amount.	1884. Total.	Number.
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	cts.	$ cts.	$ cts.	$ cts.	
27	P. E. Island	King's	252 00	5,024 00	5,276 00	293 14	2,790 50	3,083 64	475 44	3,028 00	3,503 44	27
28		Prince	316 00	6,709 00	7,025 00	418 00	3,429 50	3,847 50	520 00	3,642 00	4,162 00	28
29		Queen's	210 00	3,626 00	3,836 00	96 00	1,550 00	1,646 00	65 02	1,473 50	1,538 52	29
30		Totals	778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	1,060 46	8,143 50	9,203 96	30
31	Quebec	Bonaventure		8,945 00	8,945 00		3,846 50	3,846 50		5,508 00	5,508 00	31
32		Gaspé	2,070 00	17,899 75	19,969 75	2,152 00	9,302 50	11,454 50	1,906 00	13,879 50	15,785 50	32
33		Rimouski										33
34		Saguenay	2,350 00	1,773 00	4,123 00	2,320 01	2,319 00	4,639 01	2,023 09	4,687 50	6,711 43	34
35		Temiscouata		15 00	15 00							35
36		Totals	4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	3,929 93	24,075 00	28,004 93	36

RECAPITULATION.

37	Nova Scotia		45,435 50	60,663 22	106,098 72	55,544 00	33,888 50	89,432 50	59,274 59	45,659 50	104,934 09	37
38	New Brunswick		4,342 00	12,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00	38
39	P. E. Island		778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	1,060 46	8,143 50	9,203 96	39
40	Quebec		4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	3,929 93	24,075 00	28,004 93	40
41		Totals	54,975 50	117,309 97	172,285 47	64,942 35	65,402 50	130,344 85	68,832 98	86,886 00	155,718 98	41

COMPARATIVE STATEMENT of Fishing

Number.	1885.			1886.			1887.	
	Vessels.	Boats.	Total.	Vessels.	Boats.	Total.	Vessels.	Boats.
	Amount.	Amount.		Amount.	Amount.		Amount.	Amount.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1	430 08	1,180 00	1,610 08	431 60	1,063 50	1,495 10	305 27	1,162 00
2	.....	982 50	982 50	.....	832 00	832 00	.....	924 50
3	210 00	4,012 50	4,222 50	392 00	3,765 00	4,157 00	374 14	3,600 00
4	74 00	....	74 00	74 00	.....	74 00	74 00	.....
5	.....	.....	.....	.....	.....	.....	.....	.....
6	3,036 02	1,993 00	5,029 02	2,131 79	1,924 50	4,056 29	2,671 34	1,582 50
7	3,312 53	7,129 50	10,442 03	2,936 90	7,521 00	10,457 90	2,210 58	7,963 50
8	5,984 77	8,398 00	14,382 77	4,947 02	8,200 50	13,147 52	5,097 61	8,333 50
9	884 00	4,913 50	5,797 50	1,294 12	5,265 00	6,559 12	1,582 88	5,091 00
10	54 00	185 50	239 50	96 00	297 50	393 50	218 00	242 00
11	17,315 34	2,947 00	20,262 34	16,755 64	3,122 00	19,877 64	16,154 33	3,751 50
12	154 00	132 00	286 00	156 00	94 50	250 50	.....	130 00
13	1,854 00	1,190 50	3,044 50	1,814 60	957 00	2,781 00	1,650 00	1,212 50
14	3,164 49	7,046 00	10,210 49	2,650 00	6,941 00	9,591 00	2,762 86	7,704 00
15	9,198 00	3,201 50	12,399 50	7,880 67	3,072 00	10,952 67	6,678 62	3,687 00
16	166 00	4,487 00	4,653 00	222 20	4,599 50	4,821 70	88 00	4,600 50
17	9,415 50	968 50	10,384 00	8,513 60	829 00	9,342 60	8,539 40	1,230 50
18	55,252 73	48,767 00	104,019 73	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00
19	2,508 25	3,937 00	6,445 25	2,579 67	4,246 00	6,825 67	3,292 65	4,681 50
20	452 00	5,876 00	6,328 00	516 00	6,462 00	6,978 00	618 75	7,136 00
21	184 00	1,309 50	1,493 50	206 00	1,473 50	1,679 50	370 00	1,728 50
22	180 00	80 50	260 50	592 00	80 50	672 50	445 00	229 00
23	.....	.....	.....	28 00	7 00	35 00	.....	.....
24	902 00	367 50	1,269 50	1,054 40	424 00	1,478 40	786 25	291 00
25	.....	111 50	111 50	.....	225 50	225 50	.....	121 00
26	4,226 25	11,682 00	15,908 25	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00

Bounties Paid, from 1882 to 1889, Inclusive.

	1888.			1889.				
Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Grand Total.	Number.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
1,467 27	217 01	1,153 50	1,370 51	182 31	1,044 00	1,226 31	13,836 27	1
924 50	.....	1,063 50	1,063 50	.....	1,012 00	1,012 00	6,936 50	2
3,974 14	423 33	3,618 00	4,041 33	307 47	3,470 00	3,777 47	33,214 94	3
74 00	85 50	.....	85 50	.....	.....	.....	371 50	4
.....	.....	.....	.....	.....	.....	.....	27 50	5
4,253 84	1,696 68	1,749 50	3,446 18	1,721 61	1,608 00	3,329 61	36,061 44	6
10,174 08	1,289 71	8,274 50	9,564 21	974 57	8,093 00	9,067 57	77,416 67	7
13,431 11	3,809 99	7,806 00	11,615 99	4,367 08	7,789 00	12,156 08	105,283 78	8
6,673 88	1,247 90	5,432 00	6,679 90	1,037 96	5,170 00	6,207 96	48,024 86	9
460 00	123 45	272 50	395 95	112 50	212 00	324 50	2,554 45	10
19,905 83	13,893 81	3,794 00	17,687 81	17,184 42	3,577 00	20,761 42	159,086 31	11
130 00	.....	110 50	110 50	33 00	120 00	153 00	1,834 26	12
2,862 50	1,495 82	1,174 00	2,669 82	1,524 06	1,499 00	3,023 06	23,816 38	13
10,466 86	2,390 65	8,108 50	10,499 15	2,825 92	6,534 00	9,359 92	79,353 65	14
10,365 62	5,193 59	3,842 50	9,036 09	4,127 80	4,240 00	8,367 80	85,527 95	15
4,688 50	36 00	4,963 50	4,999 50	21 00	5,030 00	5,051 00	36,786 70	16
9,769 90	5,661 46	858 50	6,519 96	5,428 81	896 00	6,324 81	72,691 86	17
96,622 03	37,564 90	52,221 00	89,785 90	39,848 51	50,294 00	90,142 51	782,825 02	18
7,974 15	2,113 50	4,447 50	6,561 00	2,127 16	4,803 00	6,930 16	53,554 23	19
7,754 75	537 46	8,212 50	8,749 96	590 95	9,822 00	10,412 95	55,381 16	20
2,098 50	244 48	1,770 50	2,014 98	71 50	2,177 15	2,248 65	13,742 13	21
674 00	155 34	73 00	228 34	414 37	85 00	499 37	2,634 21	22
.....	28 50	.....	28 50	21 00	7 00	28 00	171 50	23
1,077 25	487 64	312 00	799 64	487 66	377 00	864 66	9,729 15	24
121 00	.....	72 50	72 50	.....	43 00	43 00	740 00	25
19,699 65	3,566 92	14,888 00	18,454 92	3,712 64	17,314 15	21,026 79	135,952 38	26

COMPARATIVE STATEMENT of Fishing Bounties

Number.	1885.			1886.			1887.		
	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
27	626 15	4,090 50	4,716 65	770 44	4,149 50	4,919 94	1,225 78	4,396 00	5,621 78
28	426 00	3,552 50	3,978 50	967 40	3,413 00	4,380 40	1,127 00	3,636 00	4,763 00
29	76 00	1,433 50	1,509 50	271 53	1,364 00	1,635 53	734 73	1,409 00	2,143 73
30	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51
31	.....	8,005 00	8,005 00	.....	9,294 00	9,294 00	.....	8,862 00	8,862 00
32	1,524 26	14,900 50	16,424 76	1,176 98	15,465 50	16,642 48	1,233 98	15,335 25	16,569 23
33	.....	.....	.....	.....	.....	.....	.....	.....	.....
34	1,988 00	5,047 00	7,035 00	2,227 63	5,119 50	7,347 13	2,354 00	4,122 50	6,476 50
35	.....	.....	.....	.....	.....	.....	.....	.....	.....
36	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73

RECAPITU

37	55,252 73	48,767 00	104,019 73	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00	99,622 03
38	4,226 25	11,682 00	15,908 25	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00	19,699 65
39	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51
40	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73
41	64,119 39	97,478 00	161,597 39	60,685 59	100,218 00	160,903 59	60,595 17	103,162 75	163,757 92
	Less Refund.....		58 00						
			161,539 39						

Paid, from 1882 to 1889 inclusive.

1888.			1889.			Grand Total.	
Vessels.	Boats.	Total.	Vessels.	Boats.	Total.		Number.
Amount.	Amount.		Amount.	Amount.			
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
654 06	2,067 00	2,721 06	1,043 02	6,672 00	7,715 02	37,557 53	27
782 00	3,826 50	4,608 50	651 25	4,114 00	4,765 25	37,530 15	28
180 90	1,582 50	1,763 40	69 26	1,445 00	1,514 26	15,586 94	29
1,616 96	7,476 00	9,092 96	1,763 53	12,231 00	13,994 53	90,674 62	30
.....	9,891 50	9,891 50	.....	10,689 00	10,689 00	65,041 00	31
1,098 05	16,527 50	17,625 55	856 34	16,597 00	17,453 34	131,925 11	32
.....	27 50	27 50	.....	160 00	160 00	187 50	33
1,573 20	3,741 00	5,314 20	1,600 87	3,459 50	5,060 37	46,706 64	34
.....	.....	.....	.....	.....	.....	15 00	35
2,671 25	30,187 50	32,858 95	2,457 21	30,905 50	33,362 71	243,875 25	36

LATION.

37,564 90	52,221 00	89,785 90	39,848 51	50,294 00	90,142 51	782,825 02	37
3,566 92	14,888 00	18,454 92	3,712 64	17,314 15	21,026 79	135,952 38	38
1,616 96	7,476 00	9,092 96	1,763 53	12,231 00	13,994 53	90,674 62	39
2,671 25	30,187 50	32,858 75	2,457 21	30,905 50	33,362 71	243,875 25	40
45,420 03	104,772 50	150,192 53	47,781 89	110,744 65	158,526 54	1,253,327 27	41
Less Refund.....		7 00			Less Refund..	63 00	
		150,185 53				1,253,262 27	

APPENDIX No. 3.

SPECIAL REPORT

OF

MR. S. WILMOT,

RELATIVE TO THE

PRESERVATION OF THE WHITEFISH FISHERIES

OF

LAKE WINNIPEG.

OTTAWA, October, 1890.

The Honourable CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—Having received instructions from you to go to Manitoba to examine into the condition of Lake Winnipeg fisheries, covering the grounds mentioned in certain correspondence regarding the alleged depletion of whitefish, and to investigate other matters connected therewith; and having carefully read the numerous files of correspondence, relating to the above subject, which have passed between the Departments of the Interior and of the Fisheries; and also having personally visited some of the most important fishing stations on Lake Winnipeg, mentioned in the aforesaid correspondence, I beg to report, for the information of your Department, the following views which I entertain and the conclusions I have formed on the subject matter under consideration.

Lake Winnipeg lies partly in the two Provinces of Manitoba and Keewatin. It is the largest and most important body of water in these Provinces, with an area of some 9,550 square miles. Its extreme length takes in about 270 miles, and its greatest width is about 70 miles. It runs in a line nearly north and south. The southern half of the lake is very narrow, and largely cut up with small bays and inlets, and filled with numerous islands. The northern or upper half opens out to a width of some 60 miles, and covers nearly three-fourths of the whole area of the lake.

It is supplied by numerous large rivers which flow into it at various points around the whole extent of its shores.

The two principal tributaries on the west side are the Great and Little Saskatchewan Rivers—the former at the north-west end of the lake, the latter about midway of its extreme length. The feeders on the east side comprise many large rivers also, which drain an extensive territory. The southern or very narrow part of this lake, which is so largely interspersed with islands, is reported to be very shallow; whilst the upper or northern part, which is comparatively free of islands, is broad and deep. It is navigable throughout its whole extent for steamers and other craft for all ordinary purposes of traffic.

The principal product from Lake Winnipeg is the famous and highly-prized whitefish, *coregonus albus* which, for domestic and commercial purposes, no doubt stands foremost on the list of fresh water fishes in America. These fish have been, and no doubt are yet, quite numerous in Lake Winnipeg, although it is held by many persons, and truly so, that in certain localities a depletion is already felt from the wholesale methods of fishing practised by certain fishing companies, who carry on this industry quite extensively almost wholly for the United States markets.

Much controversy has arisen regarding this alleged excessive fishing in Lake Winnipeg between these fishing companies and leading inhabitants of Manitoba, and also with the settlers and Indian tribes around the lake, which has culminated to such a degree at last as to call for the serious consideration of the Departments of the Fisheries, and of the Interior to investigate this matter from a disinterested and public standpoint, not only with regard to the above issues, but also in the interests of the general public.

It is therefore of vital importance to all concerned that some practical solution should be reached by which, if possible, the fishing industries of Lake Winnipeg should not be speedily impoverished, but should be maintained as a source of wealth, and luxury for the inhabitants generally of Manitoba, both for the present and the future.

There are several separate interests connected with the fisheries of Lake Winnipeg which are dwelt upon somewhat lengthily in the Departmental correspondence

referred to—each claiming that the views held by them are the correct ones, in so far as the question of depletion of the whitefish in the lake is concerned. These different interests may be classed as follows:—

(1.) The Indian tribes under the control of the Department of the Interior claim that, many parts of the lake which formerly supplied them with the requisite abundance of fish-food are now showing depletion by reason of the excessive and wholesale fishing carried on by certain large fishing corporations.

(2.) Prominent officials and leading citizens of Manitoba also represent that Lake Winnipeg is undergoing a falling off in many localities of its former whitefish crop, and that, therefore, means should be instituted to stay this too rapid destruction of fish by judicious regulations, which, whilst protecting the fish, will not too seriously interfere with the fishing industries of the country.

(3.) The fishing companies, who are largely engaged in capturing, and freezing whitefish for export, principally to the United States, from their standpoint claim their catch of fish, when compared with other fisheries in the eastern waters where whitefish are taken, that Lake Winnipeg is not becoming depleted, but, on the contrary, this lake shows evidence of increase rather than decrease.

These contradictory statement require looking into, and due consideration given to them, before suggesting a system by which the different conflicting interests may be possibly and fairly overcome, by the introduction of some just and equitable code of regulations, which, whilst they may not be wholly suitable to the individual contending parties, may nevertheless be such as the Department of Fisheries can adopt with justice to all, and more especially in the interest of the great fishing industries of Lake Winnipeg, which the Government should, no doubt, be most desirous of maintaining.

First.—"The Indians, and the interests of the Department of the Interior."

Voluminous evidence is given in the correspondence showing quite conclusively that the Indians on some of the reserves around Lake Winnipeg are suffering from the want of their former supplies of whitefish, which in past years were obtained readily and in great abundance; and notable instances are related where waters which at one time were teeming with these fish have now became very scarce, and fears are entertained that the usual supplies of fish-food for the Indians will soon be at an end, and that this has been brought about by over-fishing at the mouths of rivers by fish traders, who are permitted to carry on this excessive fishing regardless of consequences. It is also represented that unless this reckless system of fishing be discontinued these Indians, who are the wards of the Government, will have to be supported by other means from the public funds of the country.

These are no doubt pressing facts, and must be so considered from an uninterested and practical comprehension of the state of affairs as they now exist. It is therefore expedient that the Government should meet this subject in the spirit of reciprocity; as between the requirements of the Indian, the settler and the fish trader each have their rights and are entitled to full consideration as inhabitants of the country.

It is in this broad view of the question that it is submitted to the Department, and not in the manner in which some parties desire to represent it, when they say that "the Indians should not be considered, or allowed to kill whitefish, and feed them to their worthless dogs, as formerly;" for it must be understood those dogs are the beasts of burthen for the Indian, and are used as such, and require food to sustain them, in like manner as the horse and the ox are required by the white man, though fed in another way.

Second.—The statements made by prominent individuals and leading inhabitants of Manitoba are, that over-fishing of the whitefish in Lake Winnipeg *is* being experienced, and is steadily increasing, and that it should be stayed, in the interests both of the present and incoming inhabitants of Manitoba and the North-West, and that the whitefish industry should be studiously husbanded. This advocacy for the preservation of the fishing wealth in Lake Winnipeg by the leading inhabitants of Manitoba should be sustained by the Department of Fisheries, in order to prevent

a repetition of the sad experiences which are now felt in many of the waters in the Eastern Provinces, where over-fishing has brought depletion to such an extent as to be almost wholly beyond recovery.

It is important, when submitting the different points at issue to your Department, and in order to make them more fully comprehended, that some description of the fishing grounds now occupied by the fishing companies, and the methods of fishing now employed in Lake Winnipeg, should be given, and that a plan of the lake should be appended, on which will be shown the position of the several fishing, and freezing establishments where the great commercial catch of whitefish is carried on.

Formerly this industry was pursued in the lower or southern parts of the lake; but the catch becoming much lessened there the fish traders have established themselves about midway up the lake, and at Selkirk Island, at the head of the lake. The principal points for their operations at present are at Beren's Island, Reindeer Island, and at the mouth of the Little Saskatchewan River, about midway of the lake, and at Selkirk Island, near the mouth of the Big Saskatchewan, at the north end. Other places may be only temporarly fished; but the above named localities form the present headquarters of the fishing companies.

At Beren's Island a good natural harbour is formed on the southern side. Here the two principal firms have each extensive ice-houses and freezing-houses, also landing piers for their steam-tugs and barges; similar works, but less extensive, are at Reindeer Island and at Selkirk Island. But the most extensive buildings and works are just at the mouth of the Little Saskatchewan River, where two companies each have large ice-houses, freezers and piers on either side of the mouth of this river, which is only about 100 yards wide.

The present mode of fishing by the companies is with gill-nets, which are fished at certain distances off the shores of these islands, varying from one to six and ten miles, according to the "running" of the whitefish, as it is termed.

This net-fishing commences generally about the beginning of June at Beren's, Reindeer and Selkirk Islands, where large quantities of whitefish are taken; but when the latter end of the month of August is reached these companies stop their operations at these islands, by taking all their movable fishing gear and plant to the Little Saskatchewan, where the whitefish by this time have been congregating in great numbers, preparatory to going up the river and to St. Martin's Lake, which are their specially-adapted natural breeding-grounds. Here, perhaps, about one-third of the whole season's catch is taken by these fishing companies in the narrow confines of the bay, which forms the estuary or outlet of the Little Saskatchewan River.

At this point the greatest destruction is evidently going on, and it is here, and up the river, and in Lake St. Martin's, where the Indians and others contend that depletion of the whitefish crop is most serious and very marked indeed, when compared with former years; and this great falling off is caused by the fact of the whitefish being intercepted by the numerous nets set throughout the bay and are stopped from passing up the river to their natural haunts above and to St. Martin's Lake.

Just at the mouth of this river is a small Indian reserve, where its inhabitants, together with some Indians from other localities meet late in the fishing season. Some of these Indians obtain daily employment, whilst others are furnished with boats and nets by the fishing companies, who buy the fish from the Indians at certain current prices.

Upon arrival of the steamer at the mouth of the Little Saskatchewan River, a council of the Indian chiefs and councillors was being held; about thirty were present. Inspectors McQueen and McColl, of the Fisheries and Indian Departments (who accompanied me on this trip), and myself, were invited to attend this Indian council, and the following expression was given by these Indians on the subject of depletion of whitefish on the Little Saskatchewan and in St. Martin's Lake. The substance of their deliberations at this council was given to me at the time by an intelligent half-breed interpreter, quaintly, as follows:—

"Can't catch enough whitefish for our families up river any more; all caught in mouth of river and in bay by white men traders for freezers. In old time plenty fish go up river and into St. Martin's; could then catch plenty fish for families all along banks of river with small scoop nets, easy, but now can't get fish that way anyhow—fish too scarce. Indians willing to stop fishing short time and let fish lay eggs, but white men must be stopped killing all fish with big nets at mouth of river and bay. Some young Indians want to work for freezer men to get money and spend it; don't know what way; but old Indians, squaws and children get no good, no work, no fish. Indians want big fish traders kept away from mouth river and bay with big steamboat fishing; let trader fish in big water out in lake, where Indian can't go with small canoe. Young men and boy Indian get some good, but old men and families get nothing to make up for great loss of winter food, which came up river very plenty old time before. Not much whitefish caught any time before September; very plenty after that in old time, before white man kill so many ten thousands at mouth of river in September and October. Indians can't get fish plenty any more through ice; got too scarce."

These views were given by this body of Indians in council, without any hesitation or dictation on the part of any one, but with much warmth and frankness, and certainly without any previous knowledge of our presence, as the steamboat which took us there had only just then reached the place.

The methods pursued by the fishing corporations in catching whitefish, freezing and transporting them to market, is coupled with a good deal of risk and considerable expenditure; each company necessarily employs one or more steam tugs, which are used for transporting their material and other requisites for their fishing operations to and from their headquarters at Selkirk, a town on the Red River some twenty miles north of Winnipeg city. These tugs are principally used for towing large barges laden with fish, frozen and otherwise cured, down to Selkirk. The barges are really immense floating freezers, in which fish are not only frozen by the usual process, but are also the receptacles to store away in their ice chambers the cases of fish which have been frozen in the shore establishments. When heavily laden they require strong steam power to tow them, and considerable risk is experienced in their transport up and down the lake. Two of these tugs and barges were cast on shore by the violence of the weather at the time of my going up the lake.

The nets used by these fishing companies are also extensive and expensive, as they require frequent renewing from time to time during the fishing season, on account of the rotting of the twine by the action of the milky-coloured sedimentary matter appearing everywhere, and caused by the disturbance of the clayey-bottomed parts of the lake by prevailing winds.

These nets are called gill nets. One boat's complement for fishing may be 600 to 750 fathoms in length, comprised of 12 or 15 gangs of 50 fathoms each. The size of mesh required by the regulations is 5 inches, extension measure. The fishermen, however, find it to their advantage to use $5\frac{1}{2}$ inch meshes. The usual gill net is made 16 meshes wide, or about $5\frac{1}{2}$ feet deep when set. Some fishermen use 24-meshed nets, thus increasing the depth of their nets to 8 feet. This size of net appears to be optional with the fishermen. The nets are set in long, straight lines on the bottom of the lake; they are balanced with corks and leads, so that when they rest on the bottom; they stretch upwards their whole width by the floating power of the corks, which are just sufficient to keep the net distended without lifting it from the bottom of the lake. The whitefish on their feeding grounds in the open lake, or on their migration to the bays, rivers and other spawning grounds, come in contact with these nets, and in their efforts to pass through them become entangled and are caught in the open meshes by their gills, and sometimes by other parts of their bodies.

If severe storms prevail, which is very often the case in the open lakes, these nets cannot in many cases be lifted until the winds subside, which may not be for several days, in which case the fish in the meantime die, partial decomposition sets in, and

they become unfit for use, and the whole catch, sometimes amounting to many thousands, are thrown away. Great destruction is caused in this way, and a question has arisen whether it would not be better to do away with the gill net and substitute the pound or trap net under certain regulations, as the pound net would not only save the fish which are lost by the gill nets, but would also raise the standard of the whitefish generally in the markets of the country; whereas it is now somewhat lowered by the many fish which are offered for sale that are unwholesome for food, by reason of the blemished fish whose injuries and defects are hidden by the freezing process. The pound net would no doubt be very acceptable to the fishing companies generally, not only to obviate the difficulties above mentioned, but on account of being less expensive in their general working.

The quantity of gill nets set in Lake Winnipeg in 1889 covered about 60 miles in length. These gill nets, though apparently small, and averaging but 6 feet in depth, are nevertheless from their many miles of length where set, very deadly engines, and capable of causing great havoc in circumscribed limits, such as small bays and rivers. As an evidence of this it may be stated here that in Lake Winnipeg, where only three fishing companies are carrying on the fishing trade, the quantity of whitefish reported to be shipped by one firm alone in 1889 amounted to 9,000 boxes of 130 lbs. each, making 1,170,000 lbs., the other two companies making up a similar amount, thus showing that this small number of traders are capable, with the present improved methods of fishing, of capturing upwards of two and a-quarter millions of pounds of whitefish in Lake Winnipeg during one short season alone, the greater portion of which passed directly out of the Province, causing the home consumption of Manitoba and other parts of the country to be only sparsely supplied, and at high prices.

Now, while about two-thirds of this large catch of whitefish were captured fairly in the open waters of Lake Winnipeg at the proper season of the year, the other third were said to be taken in the narrow limits of the bay at the mouth of the Little Saskatchewan River, where it appears the whitefish collect in great numbers in September and October, preparatory to their going up this river and to St. Martin's Lake for breeding purposes.

This taking of upwards of two and a-quarter millions of pounds of whitefish by these fishing companies in Lake Winnipeg, more particularly that portion of the catch taken at the mouth of the Little Saskatchewan River, must, in the common sense reasoning of things, go to show that, the originally intended balance of nature regarding these fish is being largly interfered with, and to such an extent if continued, as to cause well grounded alarm for a rapid decline of the whitefish industries connected with Lake Winnipeg, and many of the tributary waters belonging to it. And it must be understood, also, that the above, described quantities of whitefish only include those taken by these three fishing companies operating in Beren's, Reindeer and Selkirk Islands, and at the Little Sascatchewan River, irrespective altogether of the supplies that are caught by all other fishermen, Indians and settlers in other parts of the lake during the whole fishing season of the year.

It cannot therefore be otherwise than reasonably concluded that some better and wiser regulations for the preservation and future maintenance of the whitefish industry in Lake Winnipeg, and other waters connected with it, than those at present in force should be established and efficiently enforced, the result of which would undoubtedly benefit all concerned. The fishing companies could then rely with greater certainty in the belief that the capital invested by them in the fish trade would not be improvidently spent upon a too rapid depletion of the fish products of Lake Winnipeg, but that the traffic would assuredly be more lasting and remunerative in the long run. The Indian tribes could place reliance upon a lengthened continuance of supplies of whitefish which has hitherto been found to be the principal food upon which they largely subsisted; and the settlers and inhabitants of Manitoba, generally, would be enabled to retain within the limits of their own province a lasting store of valuable fish-food, both for the present time and the future; and the

Government of the Dominion would be credited for husbanding a wholesome and luxurious source of fish-wealth, which Providence had so wisely provided for its inhabitants.

Having considered the leading points at issue, which are referred to in the correspondence, the following suggestions are offered as remedial measures, by which a fair and equitable solution of the difficulties may be come to, as regards the better preservation of the whitefish industries connected with Lake Winnipeg—:

A tracing of the lake is appended, on which will be shown the boundaries beyond which the more extensive, or commercial, fishing by companies and traders should not be carried on; which gives to them the most extensive area of the lake for their operations, and shuts them out from only one locality which they at present enjoy, and in which it would be manifestly unwise to allow them to exercise their calling hereafter, by reason of the large amount of capital, with fishing gear, boats, nets and other plant, which these companies bring to bear in the prosecution of their work within such narrowly-confined limits as the bay at the outlet of the Little Saskatchewan River.

This bay is the key to the extensive whitefish breeding grounds in the Little Saskatchewan River and St. Martin's Lake, which is about 30 miles up the river. It is therefore self-evident that this bay should be guarded against over-fishing—in fact, if the maintenance of the whitefish industry in a large section of the western shore of Lake Winnipeg is to be considered of any importance, commercial fishing of any description should be wholly excluded from this bay.

It will be seen by a reference to the plan of the lake that at Beren's Island, Reindeer Island and Selkirk Island, and at the Little Saskatchewan River, the fishing companies have permanent establishments, marked thus x, consisting of ice-houses, freezing-houses, and landing-piers. Therefore, in any regulations that may be found advisable to adopt for the future, as suggested herein, these establishments will not be interfered with, unless with those at the Little Saskatchewan River, where the present system for catching whitefish in the bay and mouth of this river should not be allowed. But as a depot for storing and freezing fish, these eastablishments at the Little Saskatchewan River would in no wise be interfered with. This restriction against commercial fishing at the mouth and bay of the Little Saskatchewan would only affect in some degree the fishing companies of Gauthier & Co., and Robinson & Co., who have similar establishments for curing and freezing fish at Beren's Island and elsewhere on the lake.

The plan proposed is to exclude the granting of licenses for commercial fishing-that is, fishing by the modes and system now adopted by the present fishing companies—from certain well-defined limits, where it is known that the whitefish collect together preparatory to, and at, the time of spawning. These excluded waters against the above mentioned "commercial fishing" should be as follows: All the waters of Lake Winnipeg south of a line running from a point laid down in the map on the western shore of the lake, called "Dancing Point," to Cat Point, on Lynx Island, and thence across the lake to Pigeon Point.

All the waters of Lake Winnipeg east of certain lines, commencing at Pigeon Point and running across to the extreme north-eastern point of Berens Island, thence across again to Mossy Point, and from Big Stone Point to George's Island, and thence northward to a point three miles above the mouth of Big Black River, and from Montreal Point, at the entrance to Playgreen Lake, on a line running due west into Winnipeg Lake five miles, and from thence running due north to the Pennisula forming Mossy Point; and the waters of, and connected with, the Great and Little Playgreen Lakes. The waters on the north end of Lake Winnipeg, namely: Limestone Bay and its outlet south to Eagle Island; all the waters on the western shore from the north end to the south end of Selkirk Island, and from thence southward to a projecting point on the mainland of Long Point, as shown on the plan, and including Cedar Lake and Cross Lake, and the waters connecting them with Lake Winnipeg, together with the waters of all rivers, and the mouths thereof, emptying into the above-described excluded parts of Lake Winnipeg, and including St. Martin's Lake also.

MAP OF PARTS OF
MANITOBA, SASKATCHEWAN, AND KEEWATIN.
Showing the principal Lakes and Rivers.

SCALE OF MILES.

0 10 20 30 40 50 60 70 80 90 100

Alicamake L. · Grass L. · Big Reed L. · Nelsons L. · Little Playgreen L. · NORWAY H° · Gt Playgreen L. · Playgreen Pt · Mossy Pt · William L. · Limestone Bay · Limestone R. · Moose L. · Moose L. R. · Pike R. · Old Wifes L. · Little Black R. · Pike L. · Big Black R · Windy L. · Eagle I° · Selkirk I. · Buffalo L. R. · CEDAR L. · Narrows · Ground Rapids · Mossy Portage · Flowing R. · Spruce I. · Channel I. · Grave Pt · Deer R. · Long Pt · Gull I° · Boundary · of · Manitoba. · George I° · Big Stone L. · Pelican R. · Middle L. · Dawson Bay · Pelican Bay · Willow Cr · Deer Rock R. · Bell R. · Devils Pt · Gilliat R. · Pelican L. · Long I. · Pelican I. · Heron L. · Gull R. · Jeef R. · Swan I. · Pelican R. · Dog Pt · Birch I · Two R. · Dancing Pt · Mossy Pt · Goose I. · Woody R. · Swan R. · Duck B. · Island I. · Sandy R. · St Martins Is°s · Pelican R. · Pelican L. · Limestone Pt · Pigeon R. · Pigeon Pt · Berins I° · Berins R. · Crow I. · Catfish R. · Leaf L. · Split Rock Cr. · Beaver R. · Blood R. · Rabbit Pt · Black Bear I. · The Narrows · Loon Cr. · Duck Mts. · Meadow Portage · Waterhen R. · Deer Point · Clement I. · Duck B. · Duck R. · Fire · Portage · Warpath R · Little Saskatchewan R · Stony Pt · Jackhead R · Pelican I · Stragglers · Lynx I · Cat Pt · Portage Bay · The Narrows · St Martins I. · Fisher R. · Fisher B. · Bull Mo · Hamburg B. · Loon Cr. · Askandaga R · Buffalo Mo · Punk I · Beard I · Black I. · Swan-neck Cr · Washow R · Washow B · Big Grindstone Pt · Hole R · St Clements Pt · Bad R · Otter Nation Pt · Black R · Bear L. · Elk I · Metasse Pt · Pt Alexander · Bear R · Red R. · L. du Bonnet · Bad L. · Fork R. · Driftwood R. · Waller R. · Wilson R. · Turtle R. · L. DAUPHIN · Otter L. · Crane R. · Steep Rock Pt · Dog L. · Otter Is · Swan L · Duck I. · Long I. · Tally R. · Mary L. · Clear L. · Long L. · Otter L. · BERTLE. · Sandy R. · Marshy Pt · Swan L. · Narrows · Waterhen L. · Devils L. · L. Francis · Whitemud R. · Red Cr. · Portage · PORTAGE LA PRAIRIE. · Assiniboine R. · Red River · WINNIPEG. · Dead Horse Cr. · Brokenhead R. · Netley Cr. · Netley L.

101 100 99 98 97 96

That the "Commercial Fishing License" to be granted to any fishing company or other person shall limit the number of fishing boats to be used, the length, width and size of mesh of each net to be fished, and the number of boats and nets under each license shall be limited to a maximum number therein mentioned.

That a license, to be called a "Domestic License," be granted to Indians and settlers to carry on fishing for home use, and not for export traffic; one net only allowed to such applicants, the length of such net not to exceed a maximum therein mentioned.

That the present close season for whitefish in Lake Winnipeg, from 5th October to 30th November, inclusive, be continued and enforced against all persons.

The following questions relating to the whitefish fisheries in Lake Winnipeg being submitted for my consideration are herewith answered *seriatim*:—

(1.) "Whether there really exists a depletion of whitefish in the waters of Lake Winnipeg?"

There is a gradual but steady depletion of the whitefish product of Lake Winnipeg going on, from the effects of the present system of fishing in certain parts of the lake.

(2.) "If so, in what waters, and what are the causes of it?"

The depletion is experienced more particularly at the mouths of the larger rivers, and in the lower parts of the lake, particularly in the Little Saskatchewan River and St. Martin's Lake, caused by over-fishing at improper times, notably at the mouth and bay of the Little Saskatchewan River. This cause, if permitted to be continued here, and to be allowed in other places similarly situated in other parts of the lake, must assuredly hasten rapid depletion and eventually termination of the whitefish industry of Lake Winnipeg.

(3.) "What are the remedies?"

The remedies are to reasonably restrict the wholesale fishing now carried on by the fishing companies by judicious regulations, and to wholly prevent these companies, and others, from fishing in certain well known localities, where the whitefish congreate in great numbers prior to the close season and preparatory to their breeding time.

(4.) "Is the present close season proper or sufficiently long for the efficient protection of whitefish, and if not, what dates would you recommend?"

The present close season (5th October to 30th November) is well chosen, and should answer all purposes, if duly enforced.

(5.) "Should the permission granted Indians of fishing indiscriminately during the close season be continued?"

It would be better for the general interests of the Lake Winnipeg fisheries that the Indians should not be permitted to fish indiscriminately during the "close season;" however, public policy, it appears, prevents this being carried out.

(6.) "Should the killing of whitefish during the close season, for the purposes of feeding dogs, be tolerated; and, if so, under what circumstances?"

This is a necessary sequence to the former question. The dog is the Indian's provider, and his "beast of burthen," so to speak; and food is a necessity for the dog as well as the Indian. If the Indian is permitted to take whitefish for his own purposes during the close season the dog cannot be excepted, and it would be found almost impossible to procure accurate data to show the quantity of whitefish required for feeding dogs.

(7). "Should any, and which waters, be reserved for the exclusive use of "Indians?"

Yes. Where there are no white settlers actually domiciled, and carrying on agricultural or other fairly legitimate callings, the Indians should have the exclusive right of fishing in their reserves, and in all other waters which it may be considered expedient to set apart for them. Fish traders or other persons should not be allowed to fish in these waters under any pretence whatever.

(8.) "Should net fishing be 'curtailed,' and to what extent?"

Net fishing should be limited in the licenses granted to "Fishing Companies," and all others who carry on "Commercial Fishing"—that is, as now known by the methods of freezing and curing for export purposes. Each license for this description of fishing should state a maximum limit for the number of boats, and length and description of net to be used; and "Domestic Licenses," that is for the actual, and *bona fide* settler, or Indian, should also be limited to one boat and a maximum length of net each.

(9.) "Is the present 'close season' for sturgeon sufficiently long to ensure full protection to these fish?"

The close season for sturgeon, should be from what is at present known of its habits, from 15th April to 15th July. The license to fish sturgeon should describe the location where to fish, the description, length and size of mesh of the net, and the description of boat to be used.

(10.) "Would it be desirable that Indians be supplied with large boats and longer nets, so as to enable them to fish in the deep parts of Lake Winnipeg, instead of on the shoals only, as at present?"

It would be undesirable that Indians should be supplied with large boats and longer nets in order to fish in open or deeper parts of the lake. If the Indians desire to fish in waters outside their reserves, or other waters set apart for them, they place themselves in competition with other fishermen, and should therefore make their own provision for such outside fishing.

Conclusion.

There are, no doubt, many minor details which may be gone into in the future for practically carrying out the suggestions which have been offered to your Department, should they be considered worthy of adoption. The varied and complicated issues which are embodied in the correspondence make the solution of them extremely difficult to overcome, or to be placed under a standard of regulations, without in some manner affecting the interests of one or the other of the parties concerned.

But after mature consideration of the general subject I see no other way by which the true interests of the whitefish industries of Lake Winnipeg can be so well conserved as by the adoption of the recommendations which I have embodied in this report, believing that they will render the greatest amount of good to the greatest number of inhabitants of Manitoba and the country generally.

Whilst consideration has been given herein regarding the importance of preserving the whitefish fisheries of Lake Winnipeg, it is of equal, if not of greater importance, that similar protection should be at once extended to the waters of Lakes Winnipegoosis, Manitoba, and all other lakes in the North-West. Their smaller and narrower areas, and numerous little bays and inlets offer greater facilities for a more speedy termination of the whitefish industries connected with them than with Lake Winnipeg; and if the improvident system of commercial fishing practised by fishing and trading corporations be allowed to prevail, as at present, the whitefish wealth of the lakes of the North-West will soon become exhausted.

Respectfully submitted.

SAMUEL WILMOT.

APPENDIX No. 4.

SPECIAL REPORT

BY

MR. S. WILMOT

ON THE

SALMON FISHERY

AND

FISHERY REGULATIONS

OF

FRASER RIVER, B.C.

1. The Canning Industry.
2. The Fishery Regulations.
3. Supplementary.

OTTAWA, November, 1890.

The Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—In accordance with your instructions in August last I visited the Fraser River in British Columbia to investigate certain matters relating to the fishery regulations as applied to the taking of salmon by the several fishing companies engaged in the canning industry.

On my arrival at New Westminster I obtained copies of the regulations in force at that time, and then proceeded to visit a number of the principal canning establishments along the river, in order that I might form a somewhat practical knowledge of the operations connected with the salmon canning industries of the Fraser River.

Many of the canning factories are very extensive establishments, both as regards the size of the buildings, their general equipments and their adaptability for the work for which they are intended. The method employed is very similar in each, only differing somewhat as regards the more systematic application of machinery and work, and the greater capacity which some of the institutions have over others.

There are seventeen of these factories for canning salmon on the tidal and estuary parts of the Fraser River. They are all located between a point a short distance above New Westminster and the outlet of the Fraser into the Strait of Georgia, taking in about twenty-five miles of the river.

Within this limit the extraordinary quantities of salmon that were being caught during my stay there would be quite beyond the conception of any one, unless he had been an eye-witness of the prodigious numbers that were delivered at and passed through these canneries daily.

During one day alone it was computed that, some 150,000 salmon were delivered at these factories, all of which passed through the various stages of cleaning, cooking, canning, and packing ready for shipment the same day for the markets of America, Europe, Australia, and other countries.

This enormous fishing business goes on daily, until the great run of "Saw-kay" or suck-eye salmon ends. These salmon generally enter the Fraser River about the middle or latter part of July, and continue till about the end of August, when they became unfit to can, and those that may have escaped the nets in the lower waters may be seen passing up the Fraser and its tributaries to their spawning grounds in very great numbers.

There are several kinds of the salmon family that enter the Fraser River, but the so-called Suckeye "Oncorhynchus Nerka" is by far the most numerous, and forms the great commercial catch which the canning companies operate so largely with for export purposes.

The Quinnat or spring salmon "Oncorhynchus Chouica," are an earlier run of fish which enter the Fraser: They are much larger, reaching 20, 30 and 50 pounds in weight; their numbers, compared with the "Saw-kay," are very small indeed, and therefore of less commercial importance to the canning companies. The Saw-kay's superiority for traffic consists in the great number that can be readily obtained for extensive export trade, and the high blood-red colour of their flesh, which is retained in the canning process, giving them a preference on this account in the markets of Europe and elsewhere.

As previously stated, the "Saw-kay" salmon enter the Fraser in July. They are principally caught with drift nets. The regulation length of these nets is 150

fathoms, and size of mesh 5¾ inches extension measure. These nets are cast from the fishermen's boats and allowed to drift with the tide on the surface, being kept in place by the usual cork and lead system. The salmon passing up come in contact with these nets and get "gilled." The fishing boats, which are limited in number on this river to 500, are seen dotted all along the river. By far the greater amount of fishing is carried on near the outlet of the river into the straits, where the fishermen seem most anxious to set their nets, for the first chance in meeting the incoming fish from the sea. It is not unusual for a single boat, in one drift of a net of a quarter of a mile, to fill the boat with several hundred salmon. These are immediately taken to the company's factory where the boat is owned or the fisherman is employed, and thrown upon the landing platform. On these platforms at one end of the factory will be seen a mass of salmon numbering 8,000 and 10,000, which have been brought in by the fishermen's boats during the previous night and early morning.

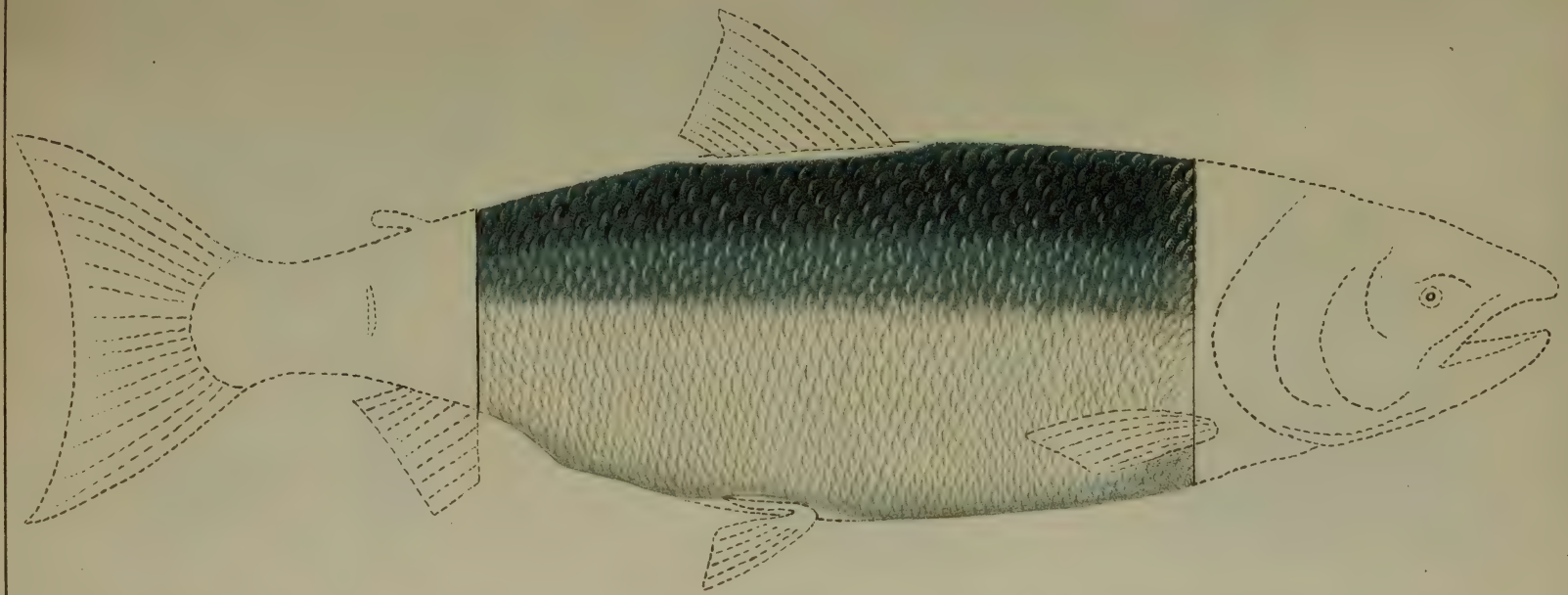
These salmon, whatever their numbers may be, are all passed through the several stages of the cleaning, cooking and canning process during that same day, so that there shall be no overlapping of one day's catch upon another. This expedition is absolutely necessary, as the fish must be put up in the most perfect fresh condition; consequently, the number of persons employed at these factories is very large, ranging in the neighbourhood of 200 to 300, depending upon the capacity of the cannery and the number of boats employed in fishing for it. Indians and Chinese are almost wholly employed in these factories.

To the ordinary observer the work of curing these great masses of salmon appears most interesting and instructive. The expeditious and systematic manner in which it is done is wonderful; but he is struck with astonishment with the wholesale and wanton waste that is going on in throwing away as offal such a vast quantity of rich, wholesome fish, food, which ought and might be made use of profitably for human food, or other useful purposes. A brief description of this wanton waste of fish is here given.

From the great mass of salmon on the platform just described the fish are thrown up singly upon the end of a long, narrow table, on either side of which the workmen stand. One, with a large knife, at one cut severs the head, shoulders and pectoral fins from the body. The next man grasps the fish by the tail and makes a small cut across (thus |) into which his thumb will penetrate a little to hold the fish from slipping from his hand; then with a large knife in his other hand he slices off with one cut the dorsal or back fin; with another stroke the two ventral or belly fins are slashed off. In both operations a goodly slice of flesh goes with the fins. The tail is then cut off near the vent. The body is then passed along to another operator, who opens the belly and takes out the entrails; and on it goes through the hands of many operatives till cooked and canned. Coming back to the waste—the head, shoulders, tail-cut, fins and entrails, making nearly one-third of the whole salmon, is shoved off the table into an open hopper-hole, all falling into the river underneath as offal. The following illustrations are given to show the waste in cutting up the fish.

RED SALMON OR SUCK-EYE.
"ONCORHYNCHUS NERKA".
FRASER RIVER.

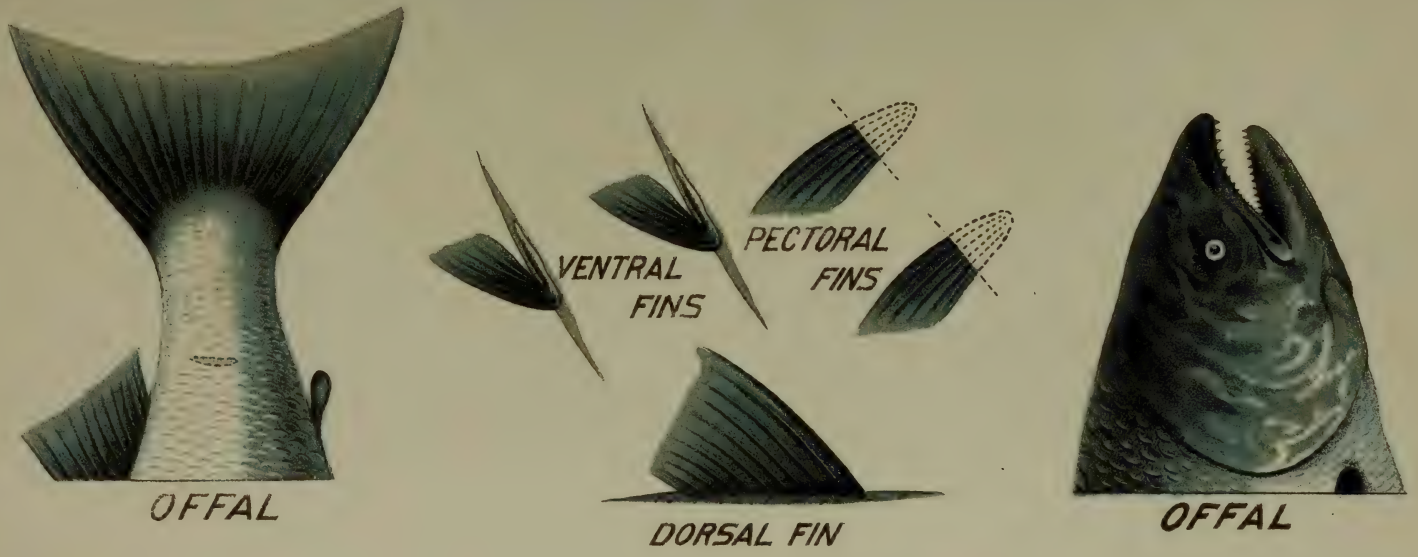
MORTIMER & CO. LITH. OTTAWA. ONT.



BODY FOR CANNING.

WITH HEAD AND SHOULDERS, TAIL, AND ALL FINS CUT OFF AS OFFAL.

MORTIMER & CO. LITH. OTTAWA. ONT.



OFFAL AS CAST AWAY.

The usual weight of the general run of "Saw-kay" salmon in the Fraser River will average between 7 and 8 pounds. If the fish are very plentiful in the river the canneries give a little more latitude to the *slashers* who cut off the heads, tails and fins, which they take advantage of by being more generous in the size of the parts they cut off as waste, as it is much easier to do so. In this case an average 8 pound salmon will make from four to four and a-half 1 pound cans for market. If, on the other hand, the fish are not so plentiful, less curtailing of the body of the salmon is done, and four and a-half or five cans may be got from the same sized fish. Thus, nearly one-third of the whole salmon is actually thrown away to rot and pollute the river.

The question arises, why should such a sacrifice of fish-food be allowed, to gratify the avarice of the packers and the fastidious taste of the wealthier class of consumers? Why not compel the canner to arrange his business so that this wanton waste of fish shall be largely diminished; or induce him to put up two classes of goods, equally suitable to the wants and means of the richer and poorer classes of consumers; or, if this should be incompatible with the trade, why not convert this vast quantity of fish matter, now thrown away as offal, into usefulness of some kind, in the way of oil, or fertilizers of some description?

THE FISHERY REGULATIONS.

In passing up and down the Fraser River and in visiting several of the canning factories opportunity was afforded for obtaining information from some of the proprietors of these establishments, and from others as well, regarding the working of the present fishery regulations. I had in my possession then only a copy of the Order in Council of 14th March, 1890. I had not then seen or read the lengthy correspondence which had passed between the Fisheries Department and the proprietors of the canneries on the river; this correspondence was on file in Ottawa. When leaving Ottawa for Manitoba on Lake Winnipeg matters, the trip to British Columbia was not contemplated, otherwise the correspondence relating to the Fraser River fishery regulations would have been closely looked into before leaving. Since my return, however, I have looked over the file 5049—89, in which the views of your Department and of the canners are fully discussed *pro* and *con*. With the information obtained by reading the correspondence referred to, and from the practical knowledge obtained by a personal inspection of the principal canning establishments on the river, and by conversations had with some of the leading proprietors of factories on the Fraser River, I feel myself better prepared to offer my views and conclusions regarding the working of the present fishery regulations, as applied to the Fraser River salmon fisheries in British Columbia.

I may here, at the beginning, state that I learned from the general expression given by all parties that no serious objections were raised to the working of the present regulations. It will, nevertheless, be understood that, with an industry so extensively carried on as the salmon canning business is on the Fraser it would be extraordinary indeed not to find some grumbling, especially amongst the more selfish and grasping persons engaged in the trade; but from every source, and upon general principles as regards the maintenance of the salmon wealth of the Fraser River, it was universally admitted that this great natural product of the waters should be more carefully husbanded than hitherto, and that it was the bounden duty of the Fishery Department to surround the industry with such judicious regulations as would prevent this extravagant and improvident fishing, with the view to maintain the source of wealth for the present and the future, which the river is so bountifully supplied with, for the commercial and domestic benefits and comforts of its inhabitants.

LIMITATION OF BOATS.

Whilst this somewhat quiet and satisfactory disposition was shown regarding the present regulations, it does not follow that this will be continuous in following years. The present season, and that of 1889, have given enormous catches of salmon,

in fact quite unprecedented in the Fraser River, and the canning companies have been enabled to procure full supplies of fish for their factories with the present limitation of boats allowed them (namely, in the gross number 350), without any difficulty. In fact, these canners could have largely increased their individual pack of canned salmon if they had made the necessary preparations to do so. The fish were there, but it was useless to take more than they could handle daily, or that they had made provision for in their establishments. Thus, it would appear that this more than ordinary contentment prevailed regarding the present regulations in the number of boats allotted to them. Should the crop of salmon in the river prove to be considerably less in following years the demand would be (as has been asked for) that the number of boats should be increased, in order that with a decrease in fish, and an increase in boats the probabilities would be that the full supply of salmon to fill their factories would be secured:—

This gives evidence of the wisdom of the regulation as now laid down for a maximum limit in the number of boats to be licensed, because it has been found that, during the past two seasons, this limit of boats has been quite, if not more, than sufficient to supply all the canneries with all the salmon their factories could well accommodate. If the number of boats were to be increased because the number of salmon were less in any one year, it would simply mean that the Department would be aiding the avaricious fisherman to destroy in a greater degree the reduced stock of salmon entering the river; whilst, if the desire is to husband this industry, the true plan would be to reduce the number of boats for the season in which there might be a reduced run of fish in the river. Hence, it must be concluded that this fixed limit of boats of 350 for the canneries (which no doubt, is all the river can reasonably bear) should be fixed, and not be made changeable from year to year to suit the demands of the canning companies.

This view of the matter is equally applicable to the remaining 150 licenses which, by the "regulations," are to be granted to the "proprietors of freezers on the river, and to fishermen."

LICENSE FEES.

Regarding the discrimination of the license fee in favour of the freezers and fishermen against the canners, the latter feel dissatisfied. The fees under the regulations are $20 for the canners up to a limit of twenty licenses each, with $5 for freezers and fishermen, and $2 to actual settlers or farmers who fish only for their own use, not for sale or barter. Whilst this reduced fee for the settler or farmer is no doubt correct, why should not the proprietors of freezers, and fishermen, be placed on the same list with regard to license fees as the canner? They are each, so to speak, professionally engaged in catching salmon for traffic—the canner and the freezer for commerce and export; the fisherman for sale and barter to the canner, the freezer, or the community generally, at his pleasure. If, then, the freezer, or the trading fisherman, becomes a competitor with the canner in the traffic of the salmon caught by them, why should they not pay the same license fee, namely, $20, for this privilege? The reduced fee of $2 for licenses to the actual settler or farmer is no doubt correct, because he is only permitted by this privilege to catch salmon for his own domestic purposes, but not to sell or trade them as a business. It gives to the settler on the river the opportunity of getting a fair share of the fish passing him for his own consumption, which may not exceed one or two hundred salmon, which, under ordinary circumstances, might be taken in the course of a few days fishing. In this way he is encouraged by the regulations in being able to get his own family wants supplied; yet he is restricted from going into the business of fishing for "sale or barter," which would draw him from the actual duties of his proper vocation of tilling the soil.

This is not the case with the trading or actual fisherman, who, as a rule, follows fishing as a regular calling, and spends the whole season capturing salmon, and selling them to the canneries, or to the freezers, or to the inhabitants generally. In many instances these fishermen are not actual settlers, but transients, persons of

all nationalities—coming in many cases, from places far away from the fishing grounds on the Fraser River, in order to pursue their calling in killing, trading and generally dealing in fish, for which privileges they only pay a license fee of $5, as against the farmer's fee of $2, who is not allowed to trade, sell or make money out of the fish he catches; and also against the canner, who pays a fee of $20 and upwards and spends thousands of dollars in the erection of factories, and employs hundreds of workmen in carrying on the fishing industry of the country.

As it is, no doubt many of these trading fishermen take out their licenses at $5, and transfer them with their boats, fish, &c., over to a canner, who by this means gets the advantage of the Department in buying up, say ten of these fishermen and their licenses, costing him $50, whereas if the license fee to the actual fisherman was (as it should be) $20, and the canner felt disposed to increase his "pack" by buying out these men, the Department could, under the circumstances, get $200 from these licenses, whereas now they only get $50 by this evidently unfair discrimination in favour of the trading fishermen.

WEEKLY CLOSE TIME.

The weekly close time established by Order in Council, 14th March, 1890, was that "Fishing for salmon shall be discontinued from 6 o'clock p.m. on Saturday to 6 o'clock a.m. on the following Monday." This it appears was changed by instructions from the Department to read as follows :—

"Fishing for salmon shall be discontinued from 6 o'clock a.m. on Saturday to 6 o'clock p.m. on the following Sunday."

This latter "close time" is undoubtedly nearer the proper one. It gives free passage of salmon up river during the whole of Saturday and Sunday, and gives opportunity for fishermen, workmen and others to keep Sunday as a day of rest. When fishing was permitted on Sunday it became a necessity that the Sabbath should be broken in order to put up the Saturday's catch, which, if left over for Monday, would become injured to such a degree as to be unfit for canning. As there is no Order in Council for this change, it is suggested that one should be passed repealing the close time now appearing in the printed regulations, and substituting the one acted upon during the past season. But if the Sabbath is to be kept the close time should cover the whole of Sunday—thus—from 6 a.m. on Saturday till 12 p.m. on Sunday.

DESCRIPTION OF NETS.

By the Regulation of 14th March, 1890, which is the latest, no special description of nets is laid down for capturing salmon on the Fraser River, or in the Province of British Columbia. Drift nets are, however, incidentally mentioned in the Order in Council, with reference to how and where they shall be used. Nothing else is said in relation to any other description of net. Other nets than drift nets are said to be used for taking salmon in some of the rivers, and other waters of British Columbia. It was reported that 10,000 salmon were taken with a seine at one haul in one of the rivers furthur up on the coast. The use of seines for catching salmon should be forbidden in British Columbia, as they are in almost every other country when the preservation of this fish is considered to be of importance. A seine may be cast across the whole width of a river, and sweep in every fish within the limit of its draft, leaving little, if any chance for salmon to escape. Not so with the drift net, for in working it floats on the surface along with the tide; it is narrow in depth, and many salmon therefore escape this drift net, either by going round it, or getting under it. The seine sweeps from top to bottom of the river in drawing, and surrounds the fish and encloses them like the deadly purse seine. The fish once within its circle can have small chance for escape. The drift net only should be allowed for taking salmon in the waters of British Columbia; its maximum length and depth, and its minimum size of mesh, should be established by the Department and strictly enforced.

ANNUAL CLOSE TIME.

British Columbia is the only Province of the Dominion where no annual "close time" is provided for the protection of salmon during their spawning time. This appears extraordinary indeed that the salmon, which is the principal source of commercial wealth in the rivers of British Columbia, should be allowed to be killed during their breeding season. Not only are there laws for protecting salmon at their spawning time in all other Provinces of the Dominion, but similar laws are found to be in existence in all civilised countries in the world, in the waters of which salmon are found to be indigenous. This absence of a "close season" for salmon in British Columbia is truly paradoxical, and calls forth from the Department energetic action for establishing a proper close time for the protection of this valuable fish at its breeding season, and for some short time also during their migration up river.

OFFAL OF FISH.

Nothing whatever is said in the Regulations of the 14th March, 1890, with regard to the prevention of fish offal being cast into any of the waters of British Columbia. This restriction, it is presumed, was considered unnecessary to be inserted in that Order in Council, as a clause referring to it is embodied in the general Fisheries Act of 1886—where a penalty is imposed against any person who causes to be thrown, or deposits in any water where fishing is carried on, "remains, or offal of fish."

This restriction appears very clear; yet it is held by some fishermen, who persist in casting all their fish offal into the rivers, that because no provision is made in the Fishery Regulations relating to British Columbia waters they are not violating any law in doing so.

The forbidding of throwing the remains or offal of fish or any other deleterious matter into waters frequented by fish is not only the law of Canada, but of almost every other country; but, notwithstanding this wise provision in the Fisheries Act of Canada, fish offal is cast into the Fraser River from all the canning factories in the most wholesale and indiscriminate manner. It is needless to dwell here upon the pernicious effects which must result from this evil practice if allowed to be continued. The strongest evidence of this view of the matter is the stringent legislation in Britain and other European countries against the pollution of their waters from this cause.

In order to form an estimate of the magnitude of the quantity of offal and waste parts of the salmon which are cast into the Fraser River from these canning establishments alone in one season, it may be here stated that the returns of 1889 show 14,789,856 1-pound cans put up by these canneries. Allowing five cans (an over allowance) for each fish, it would represent of the "Saw-kay" species 2,957,971 salmon, which, at the usual average of 8 pounds each, would give a gross weight of 23,663,768 pounds. The amount from this put up in pound cans was 14,789,856, leaving 8,873,912 pounds, or 4,436 tons of fish and offal, all of which was cast into the river to decay and pollute the water. Of this mass of fish matter thrown away, fully one-fourth, or upwards of 1,000 tons, or 2,219,900 pounds of good, wholesome fish-food, quite equal to that which is canned, was wantonly destroyed and lost for human wants. To show this loss in another way, there was an equivalent in numbers to (not including the real offal, actually unfit for food) 277,489 of the above described salmon taken in 1889 allowed to go to waste and pollute the river.

LIMIT OF TIDAL FISHING.

The limit of the Fraser River set aside for net fishing by Order in Council, 25th July, 1889, covers too great a length of the river; it extends as far up as Sumas

Harrison Lake
Burrard Inlet
North Arm
PITT LAKE
C.P.R. ON PITT RIVER
C.P.R. STATION AT HAMMOND
Slave Lake
VANCOUVER
N. WESTMINSTER
GULF of GEORGIA
FRASER RIVER.
C. P. RAILWAY.
SUMAS
Sumas Lake
Shows Tidal limit per O. C., 60 miles from mouth of river.
Shows proposed shortened limit on Fraser and Pitt Rivers.
Situation of Salmon Hatchery.
X X Between these X X 17 canneries are located.

River, which is about sixty miles from the mouth. A shorter limit made at the present time would prevent the erection of canneries hereafter on the narrow and more confined parts of the river, and also give greater freedom for the passage of fish to their breeding grounds. At present there is nothing to prevent a person putting up a canning factory anywhere on the river up to Sumas River. This would be ruinous to the salmon industry, for after the fish shall have passed the gauntlet and escaped the numerous nets with in twenty-five miles of the mouth, a factory or more some forty or sixty miles further up, with their twenty boats each and upwards, would almost annihilate the balance of the salmon in the river. To obviate such a calamity to the river, which undoubtedly must take place as the demand for canned fish becomes greater, and the avarice of the fisherman increases in the same ratio to catch them, the tidal limit should be very much shortened, say to the end at Hammond, on the Fraser, and the Canadian Pacific Railway crossing on Pitt River, two unmistakable boundaries. (See map.)

At the present time a factory for canning salmon could be built anywhere on the river, up to Sumas River (sixty miles), without obtaining authority or consent from the Department. To check this, the canners in future should be compelled to take out a "Factory License," which shall give the location of the factory, as well as the number of boats to be used. In this way the factories would come under the jurisdiction of the Department with regard to their location, etc. Certainly no new factories should be permitted to be built at or above New Westminster in the interest of the fisheries, as well as from a sanitary point of view for that city.

SUMMARY.

The following is a summary of the views put forth in this report regarding fishery regulations for the Fraser River, B.C.

(*See Order in Council, 14th March*, 1890.)

SECTION 1.

Clause 1. Fishing allowed only under licenses, and Froviding for Indians, etc.—Satisfactory.

Clause 2. Meshes of nets to be $5\frac{3}{4}$ inches extension measure, etc.—Satisfactory, if fraud is not practiced, and by which the mesh becomes much lessened by wet or otherwise. A $5\frac{3}{4}$ mesh, when dry will be reduced to $5\frac{5}{8}$ when wet. To properly establish a $5\frac{3}{4}$ mesh when fishing, it should be $5\frac{7}{8}$ when dry.

Clause 3. (*a.*) (*b.*) Drifting with salmon nets, etc.—Under no circumstances should any other description of nets be allowed but drift-nets. Seines, stake-nets, pound or trap-nets should be prohibited for taking salmon in the Fraser or other rivers of British Columbia.

(*c.*) Weekly close time from 6 o'clock a.m. Saturday till 6 o'clock p.m. Sunday following (as amended).—This should be 6 o'clock a.m. Saturday till 12 o'clock p.m. following Sunday. In this way no violation of the Sunday would be permitted by the Department. At present Sunday fishing is sanctioned by the Department from 6 to 12 p.m. Sundays in British Columbia, but nowhere else in the Dominion.

Clause 4 (*a.*) (*b.*) The numbering of boats and nets licensed.—Satisfactory.

Clause 5 (*a.*) Determining of the number of boats and nets to be licensed.—Satisfactory.

(*b.*) Total number of licenses for canneries, 350, for freezers and other fishermen, 150—total 500.—Satisfactory.

Fee for boats to canners up to twenty in number, $20 each, with increase as per allotments.—Satisfactory.

Fee for boats to freezers, and other fishermen (not farmers) $5, should be $20, same as canners.

SECTION 2.

Trout Fisheries.

Close Season, 15th October to 15th March, should be 15th September to 15th March.

SAMUEL WILMOT.

October 1st, 1890.

P.S.—After this report on the Salmon Fisheries of the Fraser River was submitted, and placed in type, the following extracts were taken from a valuable article on the salmon fisheries of Alaska, which appeared in the American *Angler* of 22nd November. Finding them applicable to, and corroborative of the subject under consideration they are hereto appended:—

"The red salmon or red-fish also known as the *sawqui* next to the humback is the most abundant salmon of the Alaska territory. Commercially it is the most important fish and indeed the most valuable product of Alaska. The United States Government has a prospective revenue of $1,000,000 annually from its seal islands. The people engaged in the salmon fishery last year took about $3,000,000 worth of fish from Alaska waters, and they were chiefly this little red salmon. This is not a large fish for it averages only seven or eight pounds in weight. * * * It travels the whole length of rivers pushing on to their sources, but unlike its big relative (the quinnat) it spawns chiefly in lakes, and in their tributary streams. At one station in Alaska the principal red salmon station, upwards of 150,000 salmon have been taken in a day. A first class cannery can use about 25,000 red salmon daily. Thirty-six canneries were operated in Alaska in 1889, the value of the pack at an average of $5 per case was about $3,000,000."

"It is asked is this tremendous drain of 8,500,000 salmon in a year, likely to endanger the food supply of the natives? Will this industry decline in value from year to year as it has on some of the more southern rivers? Undoubtedly it will, if over-fishing and Injurious methods are continued; barriers obstructing the ascent of breeding fish will unquestionably exterminate the species in after years; continual *seining across the mouths of rivers* will certainly hasten the same unfortunate result. The necessity of protecting this valuable resource must be apparent to every intelligent person. Alaska furnishes to-day one-half of the American yield of salmon, and it will be our own fault if the industry is destroyed. We must regulate the fishing by suitable laws, and refuse injurious privileges. The supply must be kept up and increased also by artificial propagation. Fish culture cannot find a more promissing field, or a more propitious and urgent occasion. There are still plenty of breeding salmon. * * * The climate is favourable and the population is in sympathy with fish cultural works. Surely here is an opportunity not to be neglected and the time to improve it is now."

SUPPLEMENTARY REPORT.

At the request of the Minister of Marine and Fisheries for a further consideration of certain matter in the report, the following is submitted:

LICENSE FEES.

The regulations of 14th May 1890, read thus:—"The total number of licenses "on the Fraser River shall be limited to 500; of this number 350 shall go to the "canners at $20 each, up to a limit of 20; when additional licenses beyond that "number may be allotted to the canners at $50 each, if the whole number does not "exceed 350.

"The remaining 150 Licenses are to be issued at $5 each to the proprietors "of freezers on the river, and to fishermen, as the Minister may authorise, but "no fisherman to receive more than one license."

The deduction from this regulation is that proprietors of freezers may be granted any number of licenses at $5 each, whilst a fisherman is restricted to only one license at a similar fee of $5, but the total number of licenses so issued must not exceed 150.

In a further consideration of this matter it must be understood that in all cases the allotment of 350 licenses to the canners will be fully taken up, and it is not only possible but very probable that, the canners will in one way or another also absorb a large proportion of the remaining 150, intented by the regulation for the freezers and fishermen, for it will be found that a large proportion of the $5 licenses granted to fishermen will be got directly or indirectly, through the medium of the canners who employ these fishermen. In this way the canners may really become the monopolists, in a large degree, of almost the whole of the 500 licenses, and at a much more reduced price than if the trading fishermen were to pay the more equitable fee of $20 all round.

It will be found that the payment of $20 fee by the fisherman for his license would in no way stop the canner from obtaining it in like manner as with the $5 fee, because the canners are not only anxious, but are asking from the Department the privilege of getting additional licenses at $20 over the number now allotted to them under the regulations.

Then why should the so-called fisherman, or trader, be permitted to act as the middle man between the canner and the Department at this small fee of $5, more than with a fee of $20, for in either case the canner will get the benefit of the increased number of boats over his allotment by the present regulations. The difference is, that the canner gets by this means his additional boats over twenty from the fisherman at $5 each, instead of $20 each, which he ought fairly to pay under the operations of the present requirement in the regulation. The fisherman is no better off in either case; the Department loses $15 on each of these licenses, and the canner gains the $15.

As an illustration, take two British Columbia inhabitants one an actual settler, or farmer; who pays $2 for the privilege of fishing for his family's uses only, and is forbidden to sell or barter his fish away, he cannot speculate with the canner in the disposal of anything connected with his license. The other is a person who may be anything, a farmer, trader, fisherman or transient person from any where. He takes out a fisherman's license at $5, with no restrictions whatever attached; he passes it over to a canner, who gets an additional boat over his limit of twenty under the regulations, and probably makes $15 into the bargain by this side-wind out of the Department. When put into round figures, the transactions as at present will show as follows:—

Say 350	licenses to canners, @ $20	$7,000
do 150	do to fishermen, @ $5	750
500	Total	$7,750

This sum divided by 500 gives an average of $15.50 each.

On the other hand, if all are put on an equality, thus:—

Say, 500 licenses @ $20	$10,000
Deduct 500 licenses, as above	7,750
Difference	$2,250

Now, instead of the greater portion of this $2,250 going into the Department's hands, as it would with a fair and legitimate fee of $20 to the licensees all round, it goes in this indirect way into the pockets of the canners, and the discrimination intended to be made by the Department in favour of the fisherman by a $5 fee is, in

the majority of instances, not realized by the fisherman, but is partaken of by the canners.

It may be said by some persons that the present low license fee of $5 prevents a monopoly of the boats by the canners. The above shows it to be otherwise, and gives the chances to the canner to become the monopolist upon more favourable terms than if the licenses were all placed upon the same standard of $20 each.

The following is, therefore, submitted, viz.: Give to the canners the 350 licenses at $20 each, and give to the proprietors of freezers, and to the trader or fisherman, the 150 licenses at the same figure, and if the freezers and fishermen do not take up the whole allotment of 150, then divide the balance of the 150 not taken up amongst the canners *pro rata*.

WEEKLY CLOSE TIME.

In the report on British Columbia Regulations, on page 13, the weekly close time, as taken from the regulations of 14th March, 1890, commences on Saturday at 6 o'clock p.m., and closes at 6 o'clock a.m. on Monday following. This was changed by the Department on 27th April, 1890, making the weekly close time from 6 a.m. on Saturday till 6 p.m. on Sunday. This latter time is maintained as being the more correct one, both in the interests of the fishery and from a moral standpoint for the keeping of the Sabbath. But after looking over the various opinions given in the general correspondence, it is contended from both of the above recited causes the close time should end at 12 o'clock midnight on Sunday, thus: "Fishing for salmon shall be discontinued from 6 o'clock a.m. on Saturday to 12 o'clock midnight on the following Sunday."

The Department has already established the time to be from Saturday a.m. till Sunday p.m. at 6, by permission—not by Order in Council. This was done at the request and with the consent of the Canners Association.

The weekly close time, it appears, was established by law in 1878, "from 8 a.m. on Saturday till midnight Sunday." This was changed again to read "from Saturday noon till 6 p.m. Sunday." Then again in 1888, "from 6 a.m. Saturday till 6 a.m. Monday." Then again in 1889, "from 6 a.m. on Saturday till 6 a.m. on following Monday." Again, in 1890, the close season was changed to read, "from 6 p.m. Saturday to 6 a.m. Monday;" and lastly, by permission of 27th April, 1890, "from 6 a.m. Suturday to 6 p.m. Sunday.',

This last period being only of a permissive character for the time being (unless fortified by an Order-in-Council) places the Order-in-Council of March 14th, 1890, as the legal weekly close time for salmon fishing in British Columbia, which is "from 6 p.m. Saturday to 6 a.m. Monday."

This means that the tens of thousands of salmon legally taken during Saturday must, in order to prevent their being thrown away, be dressed and canned on Sunday, and that the many hundreds of hands employed by the canners will be compelled to work during the Sabbath, and that as no fishing for salmon is permitted (legally) on Sunday, Monday may, or may not, become "the day of rest," instead of Sunday.

At a meeting of the salmon canners of Fraser River 28th October, 1889, they resolved to direct their delegates to obtain from the Department the same weekly close season that was in existence in 1888, viz.: From 6 a.m. Saturday to 6 a.m. Monday, forty-eight hours. This would mean the keeping of the Sabbath from canning operations, and giving the numerous workmen in the factories an opportunity of keeping Sunday as a day of rest. In this way the requirements of the "Sunday observance laws and of the Fisheries Act would be upheld in British Columbia, as in all other parts of the Dominion. By this request of the Canners Association for the close season of from Saturday morning till Monday morning the supplies of salmon for Monday's operations in the factories would have to be caught after 6 o'clock a.m. of that day. From this it must appear, from their own evidence, that the canners would be benefited materially by the permanent establishment of a close time, commencing on Saturday morning at 6 o'clock and ending on Sunday at mid-

night—forty-two hours—from which time fishermen could commence fishing and furnish a fair supply of fish for Monday's work in the factories.

This forty-two hours "close time" from Saturday morning till Sunday at midnight, is no doubt, when taken from every standpoint, the correct one, and should be at once established by the Department as a finality to this hitherto uncertain and changeable system connected with the salmon fisheries of British Columbia.

IN *re* ANNUAL CLOSE TIME.

It was stated in the report, that it seemed paradoxical that no close time existed in British Columbia for the protection of salmon during their breeding seasons, whilst in the other Provinces of the Dominion, and also throughout the world generally, it was considered necessary to have stringent laws enacted to protect almon from being caught or killed when going to or upon their spawning grounds.

Why a Province like British Columbia, which sets forth that the salmon fisheries are one of the principal sources of its wealth, should not be anxious to render every assistance possible to aid the general Government in establishing and enforcing laws to sustain that source of wealth cannot be well understood, unless it be admitted that the particular interests of some score or more proprietors of canning factories are of greater consideration than the general benefit which would accrue to the inhabitants as a whole if such a protective regulation were instituted.

The law giving free access for salmon to reach their spawing rivers, and to prevent unlicensed destruction of them, just before or at their breeding season, is a universally recognised custom the world over, and to allow British Columbia to be an exception to this wise maxim must be considered injurious to the general prosperity of that Province, and unwise for the general Government of the Country not to enforce a salutary law for the protection of salmon at the breeding time.

The close season for salmon in the Eastern Province rivers covers a period from 15th August to 1st March following; and when it is found that the annual migration of these fish up the rivers on the Atlantic and Pacific coasts is about one and the same time, and when it is also known, from the practical operation of gathering ripe ova for the hatcheries on the Atlantic and Pacific sides, that the parent fish lay their eggs about the same time, the strongest evidence is brought out to show that a close season for salmon on the one side of the continent would not be inapplicable to the other side.

The operations of the close time being strictly adhered to has undoubtedly been the principal means of upholding the salmon fisheries of the Atlantic rivers. If the system had prevailed on the Atlantic side which is now so improvidently carried on in the British Columbia rivers, giving unrestricted fishing the whole year round, salmon would have become a thing of the past many years ago in the Eastern Maritime Provinces. Therefore it is that much wisdom would be shown if the Department were to establish a proper close season for salmon in the waters of British Columbia before the point is reached when such a remedial measure would prove less beneficial, and perhaps barely possible to overcome the destructive effects from the absence of a close time.

Whilst the periods of migration and spawning of the salmon in the Eastern rivers and in those of British Columbia are in general terms about the same, yet from a slight difference in the character of some of the species of the Pacific salmon it might not be inexpedient to shorten the close season somewhat in the British Columbia river —say, to commence on the 1st September, instead of the 1st and 15th August, as in the Eastern Provinces.

If a close season regulation in British Columbia waters is not established and enforced the result must be, with the present wholesale fishing going on throughout the whole year, that eventually the salmon crops will become so reduced as, if not to bring about extermination, certainly such a falling off in numbers as will make the industry unprofitable alike to our fisherman and to the inhabitants of British Columbia.

CLOSE SEASON FOR TROUT.

Why desire a change from the present regulation from 15*th October to* 15*th March?*

The recommendation for a change is based upon the propriety of having a proper close time—one which will cover the actual period in which these fish lay their eggs. Although the 15th October will take in a portion of the time in which trout spawn it is nevertheless somewhat too late for its commencement, as large numbers of these fish drop their ova during September and the earlier part of October. If, therefore, the close time for trout were to commence on the 15th September, it would be more in keeping with the object in view, namely, to protect trout during the actual time of their spawning.

If a close time is established by a regulation which does not cover the right time it becomes not only nugatory, but admittedly legalises the killing of fish, where, by the wording of the regulation, it is proposed to protect them.

REGARDING SEINES IN BRITISH COLUMBIA.

In the report nets are referred to as follows: "By the regulation of 14th March, 1890, no special description of net is laid down for capturing salmon in British Columbia. Drift nets are mentioned only." Seines for capturing salmon have always been described as being a very destructive net to be allowed in rivers. It has been almost impossible to find out much concerning the use of seines in British Columbia. During 1890 one license for a seine net was granted at $25, of 200 fathoms, with meshes of 3½ inches extension measure, to fish in Bute Inlet; no other evidence is shown of licenses being granted for seines. As nothing whatever was laid down about seines in the Order in Council of 14th March, 1890, the inference would be that this kind of net was not permitted; but looking up former papers of 1887, the inspector there recommended licenses for seines to fish in salt water to be charged $25 each; length of fathom 150 and size of mesh 3½ inches. The inspector was instructed to issue such licenses. It appeared then that seines have been permitted; but the inference is that when the Order in Council of 14th March, 1890, was issued, it was considered unnecessary to mention what kind of net should be used in British Columbia for taking salmon. Sub-section 1 of section 1, Orders in Council has been relied upon for granting licenses for "any kind of nets." But sub-section 2 comes in conflict for granting a license for any kind of a net for capturing salmon, with meshes under 5¾ inches extension measure. The mesh may be enlarged, but it cannot be reduced under this size in the Order in Council.

In looking at the matter from a practical point, does it not seem somewhat out of place that the seine mesh as formerly laid down at 3½ inches, and which has been licensed in 1890, should be allowed, when the drift net is restricted to 5¾ inches mesh? A seine with 3½ inches mesh when drawn must be more fatal to the fish than a drift net, which simply floats on the surface with its 5¾ inches mesh. No salmon could pass through 3½ inches, whilst many might escape through 5¾ inches. Therefore, a feeling may justly exist against the practice for seining for salmon, as being more destructive than the drift net, and to give the seine additional destructive power with its 2¼ inch less sized mesh than the drift net must appear to be conclusively wrong.

RECAPITULATION REGARDING CLOSE SEASON FOR SALMON IN BRITISH COLUMBIA.

In looking more closely for matters *in re* seines it is found that a close season is mentioned in the letter of the Inspector of 11th January, 1887, and in an official memo. thereon of 16th February, 1887, recommending a close time for salmon from 1st November to 1st February. No authentic information is to hand of its adoption by the Department; in fact, the Order in Council of 14th March, 1890, (the latest on record) makes no mention of it, nor is a close season inserted in the Consolidated Regulations as published, but a close season is mentioned in some of the licenses which

had been issued in 1890. Thus, "Annual close season from 1st November to 15th June" appears more particularly as per license to the Skeena River. This must go to show the necessity that exists for having some uniform code of regulations which will establish the description of net and mesh to be used, and the close season to be kept.

In this way more comprehensive information would be obtained for the guidance of fishermen and all others interested in the great salmon fisheries of British Columbia.

I have the honour to be, Sir,

Your obedient humble servant,

SAMUEL WILMOT.

APPENDIX No. 5.

MEMORANDUM ON POLLUTION OF STREAMS AND CONTRIVANCES ADOPTED FOR THE DISPOSAL OF SAWDUST AND MILL REFUSE.

In the introductory portion of last year's report, at page xxxiii, under the heading "Pollution of Streams," the highly detrimental practice of discharging into the public waters of Canada, the refuse from saw-mills was quite fully dealt with. The different statutes providing against the practice were cited and the "Act for the better protection of navigable streams and rivers" (assented to 23rd May, 1873) was quoted in full.

At the same time it was advanced that, with but trifling cost and very little inconvenience to the extensive milling interests of the country, effectual arrangements could be made to economically dispose of the refuse from the saw-mills, and secure to the fisheries and navigation immunity from an evil which must eventually result in the destruction of both interests, unless some timely measures are adopted to put a stop to the improvident practice.

The destruction and injury to navigation and fish life caused by sawdust is too well established, and has too frequently formed the theme of reports, to need any further arguments in that line in the present connection; but I may remark that in continuation of the report of last year above referred to, and with a view to demonstrating that any reasonable endeavours on the part of the mill-owners to comply with the wholesome statutes provided in this behalf would be attended with successful and inexpensive results, the Department caused a circular to be sent to its local officers throughout the Dominion, particularly with a view to ascertaining whether any and what measures were adopted by the mill-owners to carry out the provisions of the law, and if any machinery was provided for the economical disposul of the sawdust and mill refuse.

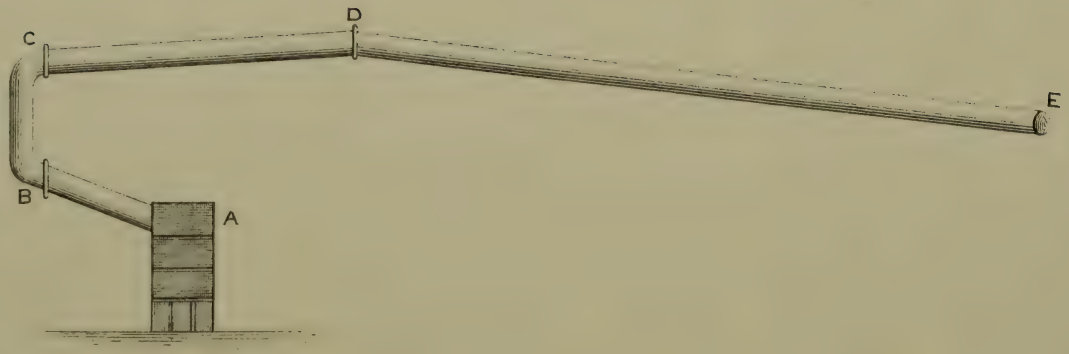
This circular elicited replies of which a synopsis is hereto appended, from which it will be observed that while in many instances endeavours were made by the mill-owners to meet the demands of the law, in many other instances insufficient means were provided and not enough care taken to prevent the refuse from passing into the water-courses.

In these latter cases the Department issued instructions to its officers to maintain a strict supervision and take steps to have the law observed, where no exemptions from the law had been obtained.

It will be noticed on reference to page 80 of the appended synopsis that the late fishery overseer for the Peterboro' division in Ontario, forwards a plan and description of an adaptation of the "carrier" principle adopted by the Lakefield Lumber Company, which he states prevents as much as possible the sawdust and rubbish from entering the river, and conveys the latter to a kiln where it is burned, the sawdust being carted away. The cost of this effective machinery is about $1,500.

At page 79 Inspector Hockin, of Pictou, Nova Scotia, furnishes a sketch of a blast used at the American Wood and Lumber Company's spool factory, at Tangier River, Halifax County, which is represented as being most efficient, and capable of adaptation to a gang-saw. Its cost including freight, duty and setting up is placed at $350.

Inspector J. R. Kinney, of Yarmouth, Nova Scotia, submits a sketch (see page 81) of a very simple and inexpensive contrivance adopted by the mill-owners at Carleton, Yarmouth County, Nova Scotia, for the conveyance of sawdust from circular saws.



SKETCH NO. 1,

ACCOMPANYING REPORT OF INSPECTOR R. HOCKIN.

SYNOPSIS.

Inspector BERTRAM, Cape Breton, N.S.:

1. Very few extensive saw-mills in his division and operated only at certain seasons of the year.

2. When called upon in 1888, nearly all mills had boxes erected to catch sawdust. Those who neglected were afterwards compelled to reluctantly comply.

3. Though operations limited, believes sawdust has in past years injuriously affected the fisheries, by polluting waters and covering spawning beds.

A. L. DARCHE, Quebec :

No provision made for disposal of sawdust except "the steam mill" which burns it. No navigable rivers in his district; not enough sawdust to affect fisheries.

ALEXANDER McQUEEN, Manitoba :

When appointed, took steps to keep sawdust out of streams; result fairly satisfactory; refuse now carted away or consumed. At Rat Portage and Keewatin, mill-owners constructed appliances, whereby sawdust is transferred to fire-pit and consumed. Six saw-mills on Lake Winnipeg, one on Winnipeg River, two on Bad Throat River, one in Moose Creek, one at Fisher Bay, one at Humbeg Bay, one at Fisher River, sawdust from which carted away from water's edge. In Lake Manitoba, one mill located at Ebb and Flow Lakes; sawdust not allowed into lake. One at east side of lake at Lundyville, not in operation. One mill at Birdtail Creek, near Birtle, two on Lower Saskatchewan River near Manitoulin Post and Rapid City. Regulations observed by them.

Only one stream, the Pembina River, which flows into United States from his district; no saw mills on it.

Inspector HOCKIN, Nova Scotia :

The only machinery in his district is at a spool factory, Tangier River, Halifax County, owned by American Wood and Lumber Company. It consists of a blast which blows the sawdust through a pipe 18 inches in diameter turning corners as in sketch No. 1:—

It is situate in the basement, and blows the sawdust from ABCD to the exit E, 100 yards from the blast. Could drive the dust as far again. If larger pieces screened, could be made to work on gang saw. Cost $180 in Boston ; freight, duty and setting up bring aggregate cost, $350.

Overseer G. R. STEELE, Ontario :

Previous to his incumbency quantities of sawdust were allowed to pass into stream to the detriment of the fisheries and navigation. Now violations of the law very rare. The refuse from Parry Sound water mill disposed of as follows : Slabs carted away for fuel ; the sawdust and trimmed ends are caught by elevators to iron burner in the mill yard with brick foundation and extending 150 feet from the ground. The Conger Lumber Company's mill, Midland, and North Shore Lumber Company, the Parry Sound Lumber Company, also Midland and North Shore Shingle and Planing Mill, all steam mills at Parry Sound. At Armstrong's steam mill, 1 mile from Parry Sound the refuse is drawn to the mill yard and disposed of as fuel. At their water mill (at McKellar), sawdust is burned. At John Flesher's mill, on Isabella Lake, refuse is run out into the yard by water power. Sawdust is injurious to both navigation and fish.

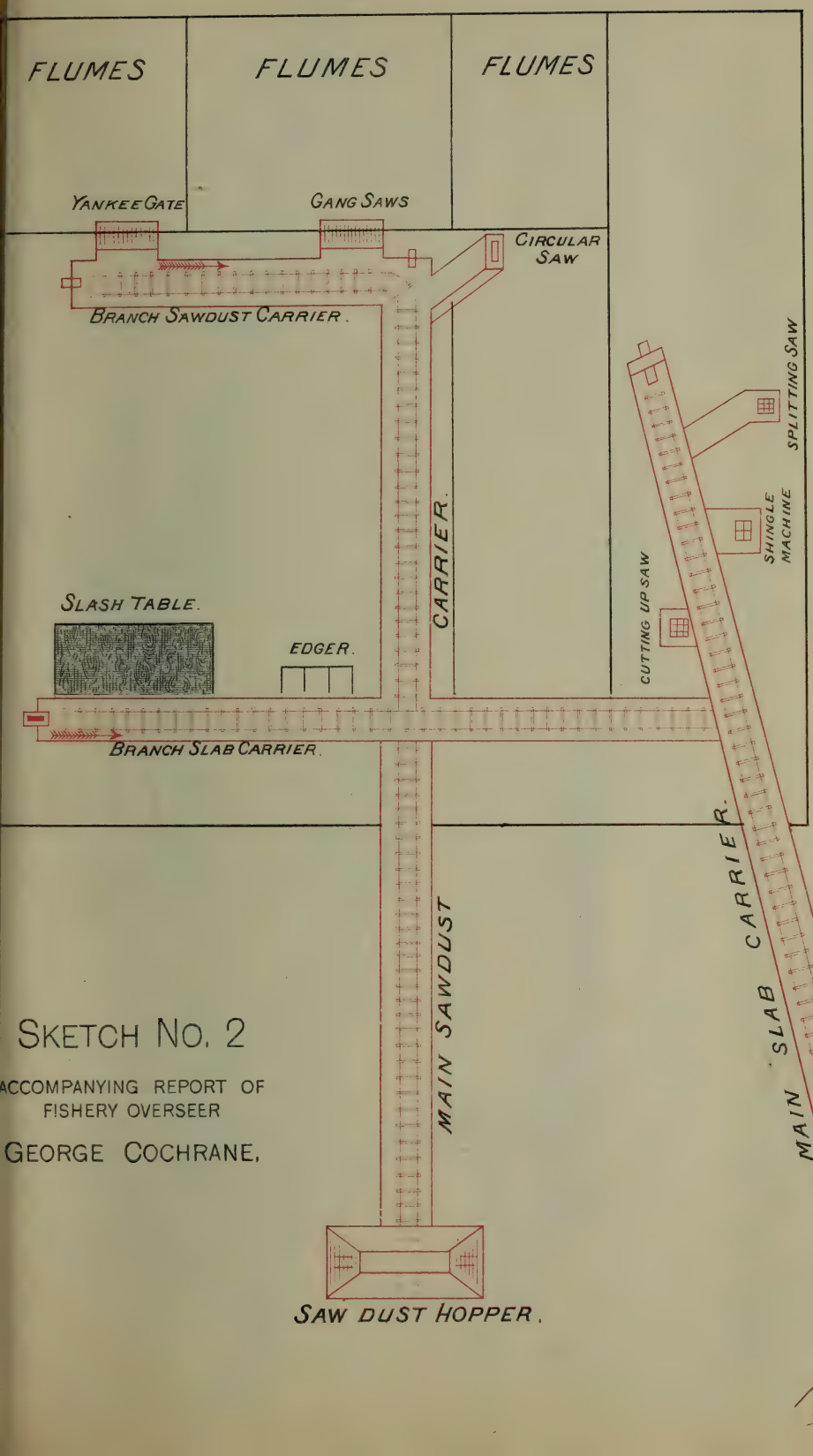
Inspector J. H. PRATT, New Brunswick :

With the exception of the mills at Bonny River, which burn all refuse during the sawing season the sawdust runs into the rivers. On St. Croix River, mills are exempt and sawdust runs into the river ; large refuse is burned and hauled away for fire-wood. All sawmills above tide water. Navigation obstructed by sawdust. Will watch Lepreau and Magaguadavic Rivers sharply. Sawdust highly injurious to fisheries.

Overseer GEO. COCHRANE, Ontario :

All saw-mills on the Otonabee River have machinery for the disposal of saw-dust. The Lakefield Lumber Company's being the best, and therefore a sketch is attached. Prevents all sawdust and rubbish from entering river that is possible in a water mill. The boxes in which the carriers run are tight and admit of no sawdust escaping. The sawdust is carted away from the hopper. That which goes into the main slab carrier is burned at the kiln, which is built of stone, 15 feet diameter, 20 feet high. Only small portion of sawdust burned, the rest carted away. Pitman holes, 8 by 30 inches and 3 by 24 inches which is the only chance for the escape of sawdust. Cost of machinery about $1,500. Sketch No. 2.

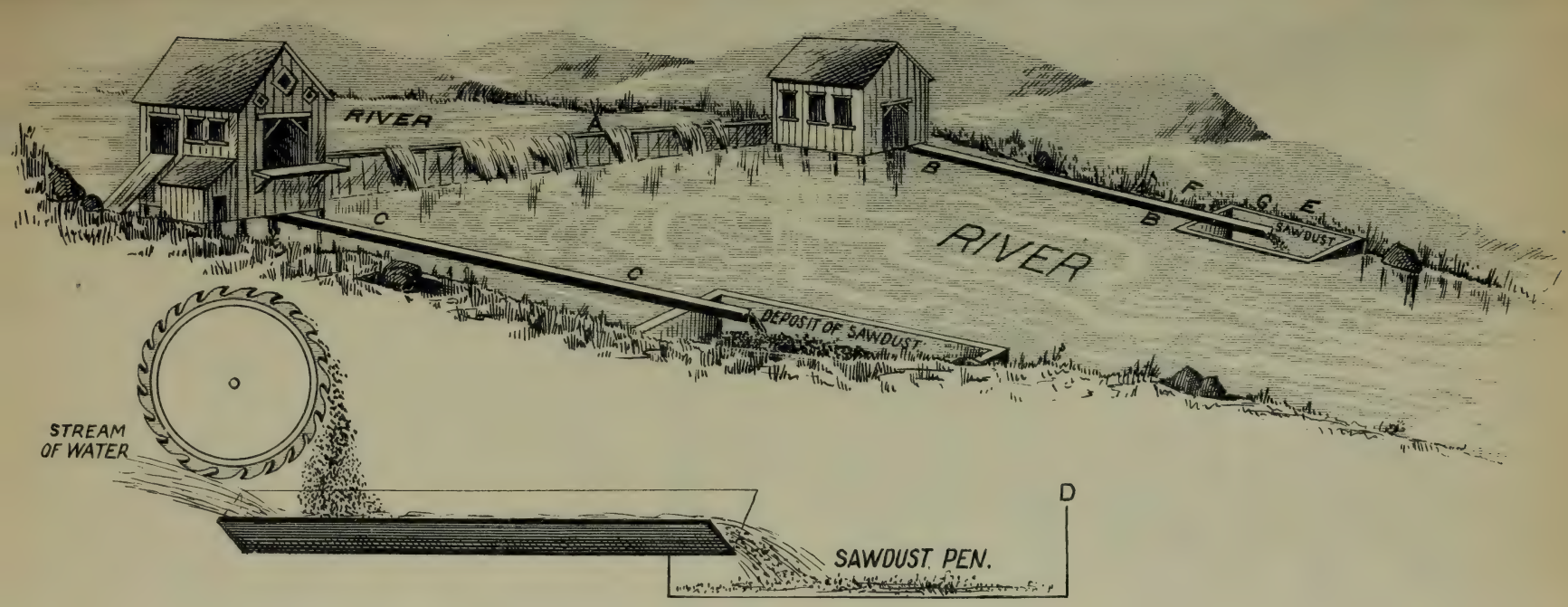
PLAN OF SAWMILL & CARRIER.



SKETCH NO. 2

ACCOMPANYING REPORT OF
FISHERY OVERSEER

GEORGE COCHRANE.



A. Dam.

B, B, C, C. Sluice way of V shaped boards, 12 in. wide, into which drops the sawdust from circular saw, behind which flows a small stream of water.

D. Large pen at edge of river protected by slab enclosure.

E. Low land at side of river enclosed by tight wood barrier.

SKETCH NO. 3,

ACCOMPANYING REPORT OF

INSPECTOR J. R. KINNEY.

At Blyth Mills, Peterboro', the sawdust falls into carriers and is taken to a hopper in the attic, dropped into waggons and carted away. The sawdust from the upright saws falls into the pitman hole and into an apron which throws it into the carrier. Slabs and other rubbish carted to mill yard.

Nassau water mill, refuse burned; sawdust falls through pitman hole.

Dixon & Co.'s mills, carriers from all saws except uprights.

Fishing as good as ever. Navigation interfered with only at Little Lake.

Overseer Charles Gilchrist, Ontario:

Only Messrs. Hillyard and Strickland, at Peterboro', have tried to prevent the sawdust from falling into the river.

Strickland's plan works well and is as follows:—A cross-carrier takes all the sawdust and mill refuse from the pitman hole to a main carrier, which conveys all the dust and refuse to an elevated hopper under which carts are driven and the stuff hauled away. Hilliard's plan is the same, but his floor is defective. Hazlett does the same at his two small mills, but nothing at his large one. Effects of sawdust on navigation and fisheries disastrous.

Overseer Hughson, Ontario:

A good number of millers use carriers which conduct the sawdust to the banks of rivers. Some mills have railways and little trucks which are pushed by hand. The steam-mills burn their sawdust. Effects disastrous to the fish in his division.

Inspector Hackett, Prince Edward Island:

Several small saw-mills in the Province used principally for sawing for domestic use. Provided with no machinery for disposal of sawdust, but are generally provided with a floor below the saw, upon which the dust falls and is wheeled away by wheelborrows; mills only operated for short time in spring and fall, and if any effort is made to keep out sawdust, the evil is very slight. Sawdust injurious to fisheries, but has never been in sufficient quantities in Prince Edward Island to affect navigation.

Overseer P. W. Nagle, Quebec:

No sawdust put into the rivers from mills in his division; all carted away and burned or otherwise utilized. Would injuriously affect fish and navigation.

Inspector J. R. Kinney, Nova Scotia:

Majority of millers merely cart away their sawdust to some dumping ground.

At Carleton the following simple device is adopted:—Sketch No. 3.

A. Dam.

B.B. C.C. Sluice way of V.shaped boards 12 in. wide, into which drops the sawdust from circular saw, behind which flows a small stream of water.

D. Large pen at edge of river protected by slab enclosure.

E. Low land at side of river enclosed by tight wood barrier.

Sawdust has seriously affected streams in his division.

Overseer F. C. Gilchrist, North West Territories :

No saw-mills in his district.

Overseer J. S. Richardson, Ontario:

Four steam mills in his division; have carriers and burn refuse; three water-mills, two of which have carriers and cart refuse away, the other piles it near the river, and when water raises it is carried away. Sawdust and mill-refuse is very injurious to fish.

Overseer Joel Shurtleff, Quebec:

No machinery for disposal of sawdust; some millers burn it, but he believes that a large quantity is being put into the water.

Overseer F. Webber, Ontario:

Majority of mills are steam-power and have iron burners for disposal of sawdust. The largest water-mill (Drinkwater's), on North River, also has burner; most of the other water-mills have stone burners.

Since prosecution of mill-owners on Severn River two years ago, millers in his district have complied with law. Besides, sawdust is in great demand for road-building and in the extensive ice business carried on there by Americans.

Overseer J. R. Graham, Ontario:

Twelve steam and four water mills in his division. The greater part of sawdust is burnt, and some is carted away, and some used for building piling grounds. Believes sawdust is injurious to fish.

Overseer F. G. M. Frazer, Ontario:

Steam mills have sheet-iron burners for disposing of sawdust, as also have some of the water mills. Thinks it almost impossible to prevent sawdust from going through pitman hole, but believes improvement could be made if law was strictly enforced. Sawdust is frequently shovelled into the water, which, if not prevented, will destroy fisheries. It also interferes with navigation.

Overseer A. D. Sills, Ontario:

Sawdust is sold for various purposes, and in mills where it is not sold it is carried by chains from the saw to a platform under the mill. The mill-owners state that it is drawn away from here, but he is of opinion that large quantities are secretly dumped into the stream.

Steam mills burn it.

Its effects on navigation is shown by the operations of dredge at Napanee, where hundreds of tons have been taken out.

It is also injurious to spawning beds.

Overseer J. Grant, Ontario:

Two steam and two water mills in his district; steam mills burn part of sawdust and use rest for building piling grounds. Water mills cart away and burn what they don't use otherwise. None put in river. Very injurious to navigation and fisheries.

Overseer J. Kelly, Quebec:

Those who have not elevators for disposing of sawdust have floors from which it is carted away. They promise to get elevators. Considers it injurious to spawning beds.

Inspector R. A. Chapman, New Brunswick:

The steam mills burn most of the sawdust for fuel. The water mills in nearly every case, and some of the steam mills, let it run into the water, much to the injury of spawning beds. Recommends enforcement of the law. To give any idea of the different kinds of machinery used would involve visiting mills in different parts of his district and making plans and specifications.

Overseer P. C. Bourk, Quebec:

At Geo. Bertrand's mill at Plessisville, on White River (water power), sawdust thrown into river. Thos. Kelly's steam mill, in the Township of Somerset South, on Black River, empties into the river all the sawdust and part of the other refuse. Messrs. King Bros.' steam mill in Township of Nelson, on Becancour River, refuse burned for fuel, sawdust all put in river. Believes sawdust to be injurious; fish diminishing every year.

Overseer W. McDermot, Ontario:

Only three mills have machinery, on the principle of elevators, with slats instead of buckets. All the other mills (seventeen), except two, dispose of it with carts and wheelbarrows; the two exceptions float it away in troughs or sluices. Some leave it piled up high near the banks, and it is carried into the water by freshets. Recommends that Act be amended to specify distance from the shore at which it shall be placed.

Overseer W. Helliwell, Ontario:

Only two water mills in his division—one on the Humber, the other on the Rouge. They are situate above grist and woollen mills, and the small amount of sawdust they make does not affect navigation or the ascent of suckers, the only fish frequenting these streams. The timber supply has long disappeared, and other mills have rotted away.

Overseer F. Kerr, Ontario:

Has heard no complaints of the effects of sawdust either on fisheries or navigation. No lumbering or sawmills along the rivers in his locality. The best contrivance that he has observed is at Samuel Campbell's mill, Progresston, Wentworth County, on the Twelve Mile Creek. It consists of a large brick furnace, with high funnel; a wooden flume runs from under the saws to the furnace, with elevators and belt carriers, which convey all sawdust and rubbish to the furnace.

Overseer Brinkman, Ontario:

Sawdust much complained of on the south side Manitoulin Island. It is said to come across Lake Huron from Michigan. Flour mills at Little Current have burners; no complaints. Mr. Mutchmore, owner of mills at Providence Bay, should be compelled to provide a carrier or burner to dispose of refuse. Heard no complaints against sawdust impeding navigation.

Commander Wakeham, Quebec:

Has now visited all sawmills in his division. Law fairly well observed. No navigable rivers in division; greatest number of mills in estuary of Restigouche. Of late years care taken to prevent sawdust from entering rivers.

No. 1. *Steam Sawmills.*

Montgomery's, New Richmond, pine and spruce; Kelly's, Port Daniel, pine and shingles; King Bros, Pabos, pine and shingles; Baird, Douglastown, shingles; McKinnon, Gaspé, boards and shingles; Russell & Richardson (spool-wood) Cape Chatte; O'Leary's, Mission Point, pine and spruce (not in operation); Ross Estate, Magdalen River, pine and spruce, (not in operation). Sawdust refuse burned or carted away.

No. 2. *Large Water Mills.*

Lowery's, Oak Point, Restigouche, pine and spruce; Gagnon Bros., Penticost, north shore, spool-wood and spruce.

No. 3. *Small Water Mills.*

Monderson's Maria, boards; Day's, Bonaventure, boards; Welsh's, Shegawake, boards; Birger's, L'Anse à la Barbe, boards and shingles; Laterrer's, Cape Cove, boards; Savage's, Cape Cove, boards; MacCallum's, Barachois de Malbaie, boards.

No. 4. Spool-Wood Mills by Water.

Pierre Leclerc's, Ruisseau Arbour, spool-wood; Chs. Bertram's, Marsoins, spool-wood; Chs. Bertram's, St. Ann's, spool-wood; T. J. Lamontague, St. Ann's, spool-wood; Jos. Labrie, St. Ann's, spool-wood.

Very little sawdust made by these mills and very little escapes into the water.

The only machinery used is an endless belt system, with slats (carriers).

At Gagnon Brothers they have a water-box underneath the mill, through which is a constant flow of water when the mill is at work, and the sawdust is run into ponds and retained.

Cannot find any evidence of bad effect on fisheries or navigation in his division.

Overseer G. B. McDERMOT, Ontario:

Only sawmill in his division of any importance is Sadler, Dundas & Co.'s water mill at Lindsay. They use all their sawdust to run their grist mill, and sell the edgings. Scugog division perfectly free from sawdust nuisance.

Overseer W. P. CLARKE, Ontario:

Gilmour's mill at Trenton, Holton's at Belleville and Rathbun's at Deseronto are the only sawmills in his division. Gilmour's burns all refuse in large furnace. Horton's used for fuel and packing ice. The sawdust from Rathbun's mill is used for fuel, &c. No water mills in his division.

R

APPENDIX No. 6.

POUND-NET FISHING—GEORGIAN BAY.

I. Initial Report by Mr. Charles Wilmot.
II. Opinions of officers and others.
III. Review by Mr. Charles Wilmot.

I

INITIAL REPORT BY MR. CHARLES WILMOT.

NEWCASTLE, 1st January, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In addition to the customary annual report upon fish-breeding connected with the Newcastle establishment, which I am called upon to forward to the Department, I take the liberty of giving information gleaned from my observations with fishing interests, and my practical experience in connection with the collection of fish eggs for the hatcheries in Canada during the past ten years, upon the relative merits of the pound and gill-nets, legally used for catching the marketable fish of our great lakes.

This subject has caused considerable discussion among fishermen and wholesale dealers for several years past, and the opinion generally prevails that all information bearing upon this important question should be submitted to the Department, in order that the most beneficial net, viewed from every standpoint, may be adopted.

The large amount of money invested in fishing enterprises in the Province of Ontario, and the revenue derived by the Government from this industry, make it important that such action should be taken as to render the too rapid depletion of our fish impossible, and the means employed for capturing them made so satisfactory that when eaten by the consumer they will be in good condition. At the present time a great deal of dissatisfaction exists among wholesale dealers and their customers, owing to the fish not being in a sound condition for food, especially when arriving at destinations long distances from the fishing grounds. The cause of this, in my opinion, is largely due to the use of the gill-net. The present system of operating the gill-net by the ordinary run of fishermen is to have from two to four gangs set in different localities; these are lifted alternately, usually remaining in the water from three to four days, but in case of rough weather the fishermen cannot reach them, and the fish are not removed for a much longer period. The result is that a large proportion of the fish, when taken from the net, are in a somewhat decomposed state, and it stands to reason that their condition will not be improved by the time they arrive at the important fish markets, such as Toronto and Buffalo, to be sold to the retail dealers of Canada and the United States, after having been kept for a week or more. It is well known that a large percentage of the fish taken by the gill-nets are unfit to be shipped fresh. If in good order when caught it would profit the fishermen to ship them in that state, as they command a much higher price than when salted. The reason that such a large number of fish are salted is, simply because they are not marketable to ship as sound, fresh fish. The effect of

the salt put upon them for curing purposes temporarily hardens the fish, deceives the buyer, and leads the consumer to the mistaken idea that they are wholesome, when in a great my instances they are really unfit for human food.

On the other hand, the fish caught in pound-nets are kept alive and uninjured until taken out, and even in the event of a storm arising to prevent the fisherman from going regularly to his nets it makes no difference, as their construction permits the fish to swim around the pound or trap without injury; consequently, they are in a better condition when arriving at market than those captured by the gill-net, which gills and kills the fish, and where they remain in the water for days, to be knocked about by the storms until taken from the meshes of the gill-net. The effect upon fish, left in the water in a dead state, is to deprive them of their flavour, and to make them soft, flabby and unwholesome as food, thus greatly reducing their marketable value.

I am of the opinion that the gill-net is much more destructive than the pound-net, and its use as at present practised must eventually exterminate the salmon trout and whitefish. In districts where extensive fishing is carried on by means of gill-nets many miles of fishing grounds are covered, and while the meshes of these nets are made sufficiently large (say, 4½ or 5 inches) to capture the most marketable fish, they allow the poorer classes (such as the sucker, the mullet and the ling, averaging 2 pounds in weight, and for which there is no demand) to escape. These useless fish must naturally increase and multiply rapidly, and during the winter and the spring months they are known to live very largely upon the eggs and the fry of the salmon trout and whitefish, and if no steps are taken to exterminate them they must eventually sooner bring about the extinction of the better class of fish. An important principle in agriculture is that the weeds and tares must be destroyed in order to permit the proper grain to grow. This rule is also applicable to the successful growth and maintenance of fish, and we must, therefore, remove the useless fish as much as possible, if the better kinds are expected to bring about fruitful results.

Another object to be gained is that it would be impossible to use the pound-net illegally with any degree of success during the close time, for the following reasons: An ordinary pound-net is about 30 feet square, and generally stands above the surface of the water from 4 to 6 feet when set; it must be placed in a sufficient depth of water, on clay bottom, to allow the necessary stakes to be driven to hold it in place; it cannot be set upon the shoals and gravelly spawning grounds, and in either case it could be readily seen at a long distance by any active fishery officer or other person; its cost is such that no fisherman would run the risk of its being seized and confiscated, and therefore the provisions of the law for the protection of the fish would be more strictly obeyed if the pound-net system were adopted.

It is not my intention to make any statements here or to cast reproach upon persons having a large amount of capital invested in gill-net fishing, as I am fully convinced, from the views expressed to me by many of them, that they are equally anxious with the Government to carry out the provisions of the law, and to do all they can to preserve the fishing interests of the country.

It would be well to note that in most cases the law is violated more by persons having very small capital invested, and who do not follow fishing wholly as a means of livelihood, and in many instances obtain no license or legal permit to fish at all; but, owing to the fish being captured very readily during the spawning season, almost opposite their own doors, they can, by the gill-net system, do a vast amount of harm with a very small investment and little labour.

There is no question in my mind but that too many gill-net licenses are granted; they cause the feeding and breeding grounds to be too extensively fished, and storms have an injurious effect upon them, owing to many of the gill-nets being cast adrift containing large numbers of fish, which die and pollute the waters.—This in addition to the over-fishing, hastens depletion, and the grounds become barren.

The pound-net, if made with a legal mesh (say 4 inches), would not only capture the desired fish, but also retain the inferior ones; and if the fishermen were compelled

by legal enactment to take these useless fish ashore, which are so rapidly filling the waters, the farmers would only be too glad to draw them away for the purpose of fertilizing the soil. By this means the sucker, the mullet and the ling would diminish, and their powers to injure the propagation of the salmon trout and whitefish would be very much lessened. This method of fishing with the pound-net would enable the half grown and immature salmon trout and whitefish to escape uninjured, and the objections and defects complained of, where the $2\frac{1}{2}$-inch pound-net is in use, would be remedied.

It might be supposed by those unacquainted with the habits of the better class of fish that they live upon the inferior ones. This, however, is not the case. Salmon trout feed largely upon herring; the sucker, the mullet and the ling form no part of their food, while the whitefish are not of a predaceous nature, but live wholly upon crustacea and insect food. As a further proof of the correctness of my theory in upholding the merits of the 4-inch pound-net, it should be observed that, while the larger herrings may be caught in it for marketable purposes the supply of smaller ones, upon which the salmon trout feed, will not become exhausted, as they pass easily through and out of this net.

This cannot be said of the gill-net in regard to small salmon trout, which come under the classification of predaceous fish. Large numbers of them, averaging 6 and 8 inches in length, are frequently entangled by their teeth, on account of the net being constructed of such fine thread, and they do not see it until caught in this way. The pound-net is made of much coarser twine, and is so conspicuous, having been coated with tar to prevent its decay, that these small fish readily see it, and are not injured in passing through.

During the close time of thirty days in November the salmon trout and whitefish frequent the shallow waters, where gravelly bottoms are to be found, for the purpose of spawning; here they are more easily caught than in the deeper waters in the open season. The construction of the gill-net is specially adapted for the destruction of the parent fish in these localities; it can be used illegally by fishermen, without even a buoy to mark its location. It is therefore impossible for the most energetic fishery officers, having as they do, districts under their charge extending over limits a hundred miles or more, to enforce the law. It is at this season of the year that so much harm is done to the fisheries by these illegal fishermen, who fish in a wholesale manner, and either salt the fish, or sell them to other parties having facilities for freezing them, and then after the close time is passed, they are disposed of as marketable fish which were captured in the open season.

The large amount of money invested in gill-net fishing by virtue of the numerous licenses which are granted from year to year renders it almost impossible to adopt immediate steps to abolish this system, even if the Department felt inclined; but in my opinion the number of licenses should be gradually reduced, and, finally, none granted for gill-net fishing later in the fall than 15th October, as this is the time of the year when the salmon trout and whitefish leave their feeding grounds, and seek their breeding grounds for spawning purposes.

CHAS. WILMOT,
Officer in charge of the Newcastle Hatchery.

II

In accordance with directions, a circular was sent to fishery officers and others on Georgian Bay, asking their views as to the advisability of allowing a limited amount of pound-net fishing in the above named waters, and curtailing gill-net fishing.

The following answers to the questions submitted, together with a review by Mr. Chas. Wilmot, Fishery Officer in charge of the Newcastle hatchery, have been received:—

QUESTION No. 1.

Whether it would be advisable to allow pound-net fishing in Georgian Bay, under certain restrictions?

Overseer Shackleton, Colpoy's Bay.—No.

Overseer Miller, Owen Sound.—Yes; on the mainland, and on condition that the nets do not extend more than half a mile outside.

Warden Cameron, Killarney.—No. Gill-net fishing is now carried on so extensively in the bay that further devices for catching fish are unnecessary.

Overseer Wilson, Sault Ste. Marie.—Yes; should be allowed under certain conditions and restrictions.

Overseer Fraser, Victoria Harbour.—No; should be forever prohibited—very destructive to all kinds of fish.

G. P. McIntosh, Fish Dealer, Meaford.—Yes; would allow them in any part of the bay, but those on mainland not to extend more than half a mile from shore.

Overseer Brinkman, Manitoulin Island.—Yes, under certain restrictions.

Charles Noble, Fish Dealer, Killarney,—Yes; too many of them might not benefit the fisheries, but they would not be half as objectionable as those set in the channel of Lake Huron.

C. W. Gauthier, Fish Dealer, Windsor and Detroit.—Yes, under certain restrictions.

W. A. Clark, Fish Dealer, Collingwood.—Pound-nets are very destructive.

QUESTION No. 2.

What size of mesh would you recommend?

Overseer Shackleton.—Leader, 8 inches; pot, 5½ inches.

Overseer Miller.—Leader, 6 inches; pot, 4 inches.

Warden Cameron.—No recommendations.

Overseer Wilson, Sault Ste. Marie.—All parts of pound-nets should be not less than 6 inches, extension measure. Nets should be at least six miles apart.

Overseer Fraser, Victoria Harbour.—No recommendations.

Mr. McIntosh, Meaford.—Any size in lead ; not less than 4 inch in pot.

Overseer Brinkman.—Leader, 5 inches; pot, immaterial.

C. W. Gauthier.—Leader, 7 inches; pot, 4 inches on three sides, and for the back 3½ inches.

W. A. Clark.—Leader 5½ inches; pot. 5 inches.

Question No. 3.

In what particular places of Georgian Bay would you recommend that pound net fishing be allowed ?

Overseer Shackleton.—Nowhere.

Overseer Miller.—Anywhere on the mainland.

Warden Cameron.—No answer.

Overseer Brinkman.—Localities should be decided upon by local fishery officers. No pound-nets should be allowed in channels, mouths of rivers and fish " runs."

Overseer Wilson, Sault Ste. Marie.—Not sufficiently familiar with Georgian Bay to recommend particular places. Strongly advises that they be not allowed in or near the channels between Owen Channel and Cape Hurd, including former.

Overseer Fraser, Victoria Harbour.—No recommendations.

Mr. McIntosh, Meaford.—Anywhere on the mainland.

Chas. Noble.—This should be decided by the Department, in accordance with information received.

C. W. Gauthier.—On the west side of Georgian Bay only, no pound-nets should be allowed on the east side, nor around Squaw and Bustard Islands, as these are considered to be the natural spawning grounds of whitefish.

W. A. Clark.—Would permit pound net fishing between Cape Rich and Cabot's Head, on the western shore of Georgian Bay, Lonely Island, Point Grondines, or at any exposed places where " the early gales in September and October would blow these nets from their moorings."

Question No. 4.

Would it be advisable to prohibit gill-net fishing entirely, or curtail it, by increasing the fee $10, and prohibiting fishing with tugs ?

Overseer Wilson, Sault Ste. Marie.—Not entirely ; both licenses to be increased to $20, and all fishing operations by tugs prohibited.

Overseer Fraser, Victoria Harbour.—Curtail it, by making fee for boats $10. Fee for tugs fishing over 10,000 fathoms to be $50 would not do away with fishing with tugs.

Mr. McIntosh, Meaford.—Fee of $5 sufficient; not necessary to prohibit gill-net fishing; all protection needed is enforcement of 5-inch mesh ; would prohibit fishing by tugs.

Overseer Shackleton.—No. The 5-inch mesh should, however, be strictly adhered to. The fee is high enough, but would recommend curtailing the quantity of nets to be used.

Overseer Miller.—No. The fee is high enough for all purposes of protection. The trouble is, that the regulation 5-inch mesh is not observed. Tug fishing is very injurious.

Warden Cameron.—To prohibit gill-net fishing altogether would be a great hardship. To increase the fee to $10 would be more in keeping with the additional quantity of nets used by each boat. Tug fishing is a nuisance (they use enormous quantities of nets and injure boatmen's nets, by setting across the latter.)

Overseer Brinkman.—Would not favour total prohibition of gill-net fishing, but would recommend placing the fee at $10. Tug fishing is not a bit more injurious than boat fishing, if properly carried on, with nets of legal size.

Chas. Noble.—It would be utterly impossible to prohibit gill-net fishing now, because each fisherman on Georgian Bay has his whole invested in it. The trouble is, that there are too many persons engaged in the business. In the neighbourhood of Collingwood there are 1,500 persons depending on this industry for a living. Five dollars for a boat is high enough. The fee on tugs should be reduced to $10.

C. W. Gauthier.—Does not favour total prohibition of gill-nets, but rather curtail them, by limiting each boat to 6,000 yards of net and raising the fee to $10. Tugs should be rated at $25 each, and limited to 15,000 or 20,000 yards of net.

W. A. Clark.—Total prohibition would be a great hardship. An increase of the fee to $10 would also be heavily felt by the majority of fishermen. Tugs are more advantageous than sail boats for fishing, and fish double the quantity of nets.

QUESTION No. 5.

Under what restrictions as to localities, number and size, should gill-net fishing be permitted?

Overseer Shackleton.—A general reduction in mileage is necessary.

Overseer Miller.—Fishermen should be allowed to fish in any part of the bay, and the 5-inch mesh strictly enforced.

Warden Cameron.—No change recommended.

Overseer Brinkman.—No change recommended.

Chas. Noble.—Recommends that the size of mesh be fixed at $4\frac{3}{4}$-inches. Most of the nets now fished are $4\frac{1}{2}$ and $4\frac{5}{8}$-inch.

C. W. Gauthier.—Gill-net fishing should be allowed on the south and western sides of the bay, but not on the eastern side, or around Squaw Island and Bustard Island, as these are the natural breeding grounds of whitefish. Meshes should be $4\frac{3}{4}$ inches.

Overseer Wilson, Saulte Ste. Marie.—Reduce the number of nets to each boat and strictly enforce the 5-inch mesh.

Overseer Fraser, Victoria Harbour.—Cannot see that anything can be done in restricting fishermen to certain localities. Fee for boats fishing more than 8,000 fathoms should be $15; mesh, $4\frac{3}{4}$ inches.

Mr. McIntosh, Meaford.—Allow fishermen in any locality in bay.

W. A. Clark.—The mesh should be $4\frac{3}{4}$ inches. After 18 months, notice all nets found under this size should be confiscated.

QUESTION No. 6.

Name localities where, in order to secure the better protection of breeding fish, no fishing of any kind should be allowed?

Overseer Shackleton.—No places named. Suggests strict observance of close-season and law regarding offals.

Overseer Miller.—No places named. Five-inch mesh and law against throwing of offal should be strictly enforced.

Warden Cameron.—No fishing should be allowed at the mouth of Bad River, near French River, Fox Islands and Frazer's Bay.

Overseer Wilson, Sault Ste. Marie.—No fishing should be permitted within a radius of ten miles from any hatchery. Recommends prohibition of exportation of speckled trout.

Overseer Fraser, Victoria Harbour.—Waters comprised within following bounds: from one mile out abreast of Grumbling Point thence to lighthouse on Bustard Island to a point one mile abreast of Byng Inlet lighthouse; thence to the inside end of McKay's Island; thence to the Red Rock lighthouse, on to Sandy Island; thence to a point one mile abreast of Moose Deer Point; thence to the Gin Rock lighthouse, and on to the buoy at the southerly end of Beausoleil Island.

Fishing for herring during months of October and November only to be allowed in above limits. Herring fishermen not to pay more than $5 fee, if boat license is raised to $10.

Mr. McIntosh, Meaford.—No recommendations as to localities. Considers whole question of protection summed up in enforcement of the 5-inch mesh.

Overseer Brinkman.—Difficult question to answer, as the fish change their breeding grounds every season.

Charles Noble.—Suggests putting up hatcheries on the bay to hatch out the ova collected from Killarney to Christian Island.

C. W. Gauthier.—No fishing should be allowed on the east side of Georgian Bay, from Fox Islands to Penetanguishene.

W. A. Clark.—No pound-nets should be allowed in the north channel of Lake Huron, "only on the head lands and in places unprotected against the gales."

III

REVIEW BY MR. CHARLES WILMOT.

NEWCASTLE, 1st January, 1891.

The Honourable C. H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with your direction I herewith submit a supplementary report dealing fully with the question of pound-net as against gill-net fishing, the merits and demerits of which were referred to in a previous report from me upon which the Department obtained some opinions from its officers as well as interested parties which were referred to me for report. Owing to the importance of this subject and the interest at stake, not only to the fishermen engaged in this industry, but to the future commercial welfare of the country, I have purposely delayed submitting this review until I could thoroughly acquaint myself with every phase of the subject. This I considered could not be accomplished in a practical way without having every facility for securing information; and as Wiarton is the largest shipping point for fish in Ontario caught by means of the gill-net, and also the field of our operations for securing a supply of eggs by the pound net system, I thought it well to defer the report until after my visit there.

Before finally reviewing the correspondence referred to, I would like to call your attention to a few additional arguments to those I had previously submitted.

It is a well known fact that in the deeper waters of the lake there are varieties of vegetable growths upon which certain insects exist. These insects are the food of the young salmon trout, whitefish and herring. Here the full grown adult and marketable fish are captured by means of the gill-net whilst they are in that locality preying upon the smaller fry. In some places this vegetable production matures earlier than in others, and it will be readily understood that the instinct of the smaller fish teaches them to leave these grounds as they become barren of food.

In fact, the maturing and dying of the vegetable growth referred to means a general change for all—insects, fry, parent fish and the fishermen. The latter, who find the fishing grounds exhausted, naturally remove their nets from place to place, until they have found the habitation of the fish, which virtually means a locality where a later production of vegetable matter is to be found. Here the gill-net fisherman, for a certain period, meets with success; but later on in the season (say 15th September) the call of nature instinctively leads the salmon trout and whitefish to seek the shallow waters around the islands and along the main shores where there are natural spawning grounds. The fisherman operating the gill-net system again removes his nets to these grounds where the fish are gathered in large numbers, and on account of their pregnant state they are dull and sluggish, and more readily caught than at any other period of the year.

From the foregoing explanations, it will be observed that, with gill-net appliances and their facilities for easy removal from feeding to spawning grounds, it is a very difficult matter for the fish to escape being caught. A deplorable fact in connection with this system, and one very much to be regretted, is that a large proportion of the fish caught by means of the gill-net are taken off the spawning grounds at a period when they are not in marketable condition.

The loss of the fish at this season, even though not fit for food, is of little moment when compared with the destruction of the tens of millions of eggs which should have been deposited naturally. Had the parent fish not been molested by the gill-nets, they would have produced supplies of valuable fish food for future years.

From the peculiar construction of the pound-net it cannot be removed from place to place, as it is a stationary engine, and the fish must come in contact with it; otherwise, they are not caught; and as it must be set in deep water, with clay or mud

bottom, it does not capture them so readily upon the spawning grounds. The result of this is that in grounds where pound-nets have been in use for the past fifteen years the fishing is apparently almost as good as ever, but in localities where the gill-nets have been operated the grounds have become entirely depleted in about five years time.

As an illustration of the correctness of this view, I would call your attention to the American shores of Lake Erie, where, even with a small-meshed pound-net (say 1½ and 2 inches, which I am strongly opposed to) fishing has been carried on for the past twenty years in a most extensive manner, without any apparent signs of decrease in the better classes of fish; while in the Canadian waters, in the vicinity of Goderich, Kincardine, Southampton and other important localities where gill-net licenses were extensively granted in past years, the fish are almost exterminated, and the large capital invested in fishing enterprises at these points has been withdrawn, to be utilized in new fields of operation.

By means of the gill-net, fishing is carried on in a very extensive way; and to give an idea of its magnitude I may cite the case of the Georgian Bay, where parties holding tug and fishing boat licenses, the Indians and persons fishing without the lawful right to do so, have yearly upwards of 1,000 miles of gill-nets in use, or almost enough net set to encircle those waters twice. Even if the nets were set, as above described, they would not be nearly so injurious as when placed upon the feeding and spawning grounds of the fish in every possible shape and form; and to make matters still worse, large numbers of these nets are cast adrift from their buoys by storms never to be found again by the owners, but their construction is such that portions of them continue gilling and destroying the fish, and polluting the waters for many months after they have been lost. This, in my opinion, is one of the great evils of this system, and requires the most careful consideration upon the part of the Fisheries Department, in order to have it properly remedied.

The evil spoken of in connection with gill-nets, so far as polluting the waters and fouling the fishing grounds with dead fish is concerned, cannot possibly occur where the pound-net is in use, as the fish escape uninjured in case the net becomes adrift. Neither can it exhaust the fish on their feeding or spawning grounds, because it cannot be set in either very deep or very shallow water.

I am informed that a petition was signed some years ago by a large number of gill-net fishermen in the Georgian Bay district, which stated that the pound-net was a most destructive engine, and its use was fast exterminating the salmon trout and whitefish in this locality.

The arguments set forth in this petition must have carried considerable weight with the Department, as the pound-nets were immediately abolished. I feel confident that the cry must have been exaggerated, and had the pound-net fishermen had an opportunity to show their side of the question in its true light the Department would have looked into this matter more thoroughly, before taking final steps to do away entirely with this less objectionable and scientific method of fishing in these important waters.

REVIEW.

A great deal of difficulty attends the summing up and reviewing of the correspondence transmitted to your Department by fishery officers and interested fish dealers, as the former do not appear sufficiently familiar with the practical working of the pound-nets to give and opinion upon which the Department could prudently take action. In the majority of instances the gill-net system is the only one brought to the notice of the overseers of the Georgian Bay; and having no pound-nets in their district, they have no opportunities of becoming acquainted with the working of that appliance; while, on the other hand, the fish dealers referred to would naturally favour the system in which they have their capital invested, and from conversations with some of them I am of the opinion that they have not made a study of this important question.

In support of this view I might quote Overseer Shackleton, who, in answer to question No. 1: "Whether it would be advisable to allow pound-net fishing in the Georgian Bay, under certain restrictions?" simply answers "No," without giving any argument in support of his contention; and in reply to question No. 2: "What size mesh would you recommend?" says: "Leader, 8 inch, pot 5½". Any one acquainted with the pound-net must know that if these dimensions were adopted it would not only allow the enemies of the better class of fish, such as the sucker, the mullet and the ling, to escape, but the average-sized marketable fish as well. Then, again, the same officer, in answer to question No. 3: "In what particular place in the Georgian Bay would you recommend pound-net fishing to be allowed?" instead of giving information in regard to the matter, states "Nowhere". Then, further, in answer to question No. 5: "Under what restrictions as to localities, number and size, should gill-net fishing be permitted" Officer Shackleton evades the question altogether and says: "A general reduction in mileage is necessary"!

In my opinion, the Departmental Regulation now in force in reference to the number of yards or miles of net to be used by each license holder is right; but the fault is in the officers permitting gill-net fishermen to use almost any quantity of net and size of mesh they desire. Warden Cameron, in answer to question No. 1, says "No; gill-net fishing is now carried on so extensively in the bay that further devices for catching fish are unnecessary." This is really no argument at all, for if a better and less destructive method of fishing could be established surely it is in the interest of the fishermen and the Department to bring about is adoption. He evidently appears satisfied to permit this "extensive" gill-net fishing to continue, but suggests nothing to prevent the depletion of these valuable fisheries in the Georgian Bay, which must, in the course of a few years, become almost exterminated by this "extensive" gill-net system. For some reason, Officer Cameron gives no answer to questions 2, 3 and 5. I am quite in accord with the views of this officer in answering question 4, where he states, "$10 license per boat should not be considered an overcharge"; but I will suggest a fair and just way to decrease the number of licenses to be granted gill-net fishermen. In the first place, no person should be granted a license to fish who does not make it a specialty for his livelihood in that way. A great many cases are known where bushmen, labourers and farm hands, engaged in work at fair wages during the summer months, deliberately leave their employers service (inconveniencing them), between the 1st and 15th of October, and when the fish are seeking their spawning grounds they commence fishing. These so-called fishermen are provided with gill net appliances by extensive fish dealers, by employees of the American fish monopoly. At this season the fish are easily captured, and these parties reap a good harvest, much to the injury of the regular fisherman. Having no capital of their own at stake they run great risks of losing their outfit, and fish in such remote places, as a rule, that they don't even pay the license, unless the fishery officer happens to come in contact with them, and in nine cases out of ten fish during the entire close season. The fish captured in this way after the 30th of October are either frozen or secretly salted and put upon the market at a later period. This is not only a violation of the fisheries law, but a damage impossible to reckon to the fishing interests of the country. If the Department compelled their officers not to grant licenses to these parties there would be no difficulty in having the grievance remedied of which officer Cameron complains, that of "extensive" gill-net fishing. Officer Miller, in answering the questions sent him by the Department, displays considerable knowledge of the subject, and I quite agree with many of his views; but I differ with him, however, in part of his answer to question No. 4, where he states that "the present fee of $5 is high enough for purposes of protection," and that "tug fishing is very injurious."

The $5 fee encourages persons not engaged in fishing as a regular calling to fish in the fall of the year; and, in my opinion, the tug system is a much more satisfactory one than the sail boat. I might give a few reasons why I uphold it: 1. A tug cannot set upon the shoals in very shallow water, where the majority of salmon trout and whitefish spawn, while the sail boats and fishing smacks can; 2.

With the tug they are enabled to lift the nets regularly, and consequently the fish arrive at market in very good condition, but in cases of unfavourable winds and rough weather the sail boats and fishing smacks cannot reach the grounds upon which their nets are set until the wind and sea moderates. Under these circumstances, the sail boat and fishing smack, operating by the gill-net principle, can not lift regularly, and in too many cases, I regret to say, the fish are brought ashore in a semi-decomposed state and unfit to be eaten. In the event of these fish not being in a condition to be sold fresh, it also encourages salting and putting up large numbers of packages of decayed fish, with the idea of deceiving the buyer and consumer.

Officer Brinkman appears favourable to the use of the pound-net under certain regulations as to localities where they might be set. In regard to the size of the mesh to be allowed for pound-nets, he considers the legal mesh sufficiently large to allow the small fish to escape; but what the legal mesh is at present for pound-nets I am unable to ascertain; but if it is not as large as I have suggested (4-inch pot) I disagree with his opinion, and have every reason to believe I have shown fair reasons in support of the large meshed leads and pots.

Mr. Charles Noble, fish dealer, Killarney, is of the opinion that a limited number of pound-net licenses should be granted in the Georgian Bay; but it is evident, from summing up his report, that he is specially interested in gill-net fishing. In answer to No. 4 he appears to think "it would be utterly impossible to prohibit gill-net fishing now;" and while I am of the opinion that it would be impracticable to do so entirely, still the system could and should be reduced by the plan I have already suggested, together with an enlarged fee for fishing licenses.

W. A. Clarke, an extensive gill-net fish dealer of Collingweod, in stating that in his opinion pound-nets should only be permitted to be set at "exposed places, where the early gales of September and October would blow these nets from their moorings," proves conclusively that he is either unacquainted with the merits of this appliance, or that if he furnished a fair statement of the facts of the case he would damage his own gill-net business. He also states that "the mesh of the gill-net should be $4\frac{3}{4}$ inches, and after eighteen months' notice all net under this size should be confiscated." It may be all very well for Mr. Clarke to make that statement, but as very few (if any) of the Georgian Bay fishermen have carried out the provisions of the law by using the legal mesh of 5 inches, it is not at all likely they would restrict themselves to $4\frac{3}{4}$, as they have been using a smaller size for years, unless the Department insisted upon their local fishery officers enforcing the law more rigidly than the majority of them have in the past.

Mr. C. W. Gauthier, fish dealer, of Windsor and Detroit, in giving his opinion as to what should constitute a fair sized mesh for a pound net states: "lead, 7 inches; pot, 4 inches on three sides, and for the back $3\frac{1}{2}$ inches." In this I agree with him, with the exception of a $3\frac{1}{2}$ inch back, which, in my opinion, is not large enough, and would gill and kill a great number of salmon-trout and whitefish of too small a size to be placed upon the market, whereas if the whole pot was a uniform 4-inch they could escape and mature. I quite agree with Mr. Gauthier's answer to question No. 4 in every particular. There may be considerable force in his suggestions in answer to question No. 5, but I would advise the Department not to set apart any reserves where fishing would be entirely prohibited in deep water during the summer months without the most thorough investigation showing these grounds to be the natural feeding places of the immature salmon-trout and whitefish.

Mr. G. P. McIntosh, fish dealer, of Meaford, who has been in the business for the past twenty-five years, agrees with my views that pound-nets are not so destructive as the gill-nets, and also concurs with my opinion that the immature salmon-trout and whitefish are not to be found in the shallow water along the shores of the main land or islands, but that their feeding grounds are found in the deeper water in the middle of the lake. In all my experience, and from conversation with pound-net fishermen and others, I have never known a small salmon-trout, from 6 to 9 inches long, weighing a quarter or half a pound, to be captured, even in a pound-net,

sufficiently small in the mesh to retain the smallest sized herring; while in the deeper water, where the gill-net is used extensively, I have seen thousands of them caught by their teeth. This statement can be verified by fishermen engaged in gill-net operations, and goes a long way towards upholding the future establishment of the pound-net.

Mr. Joseph Wilson, fishery officer at Sault Ste Marie, is decidedly of the opinion "that pound-net fishing should be allowed in the Georgian Bay and Lake Huron." In answer to No. 2: "What size mesh would you recommend?" he makes a very peculiar statement when he says that "all parts of the pound-net should not be less than 6 inches, extension measure." The average size of the salmon-trout and whitefish in the Georgian Bay and Lake Huron is five pounds, so that a pound-net of this mesh would really not capture anything but the overgrown fish. Mr. Wilson further suggests that "the fee for boat licenses should be increased to $20, and would prohibit all fishing operations by tugs." I do not agree with these views, and I am convinced that a sudden change from $5 to $20 license fee for boats would be unjust, and considered by the fishermen a great hardship.

Overseer Fraser, of Victoria Harbour, suggests "prohibiting forever" pound-net fishing in the Georgian Bay, and states that the "gill-net is the only true way of fishing." From my arguments, it will be noticed that I am decidedly opposed to this officer's opinion, and I am convinced that the Department should not attach much weight to the views of any person who simply asserts, without giving practical reasons in support of their views, especially upon a question that requires the best possible action in order to do away with the very noticeable evils of excessive fishing which at the present threaten to destroy the vast wealth to be derived from the great lakes.

To substantiate my argument in regard to useless information sent to the Department, I wish to call your attention to a portion of Captain Holmes' report of 1888 upon the fisheries of the Georgian Bay and Lake Huron, in which he states that, "from conversation with fishermen of from twenty to forty years' experience I am induced to believe that it would be greatly to the interest of the fisheries and the fishermen were pound-nets entirely prohibited, at least for a term of years; but should this be deemed too abrupt a measure, without one or two years' notice, then I would recommend that the leaders be of 2 or 3-inch mesh, and the hearts not less than 4½ or 5 inches, thus allowing the small fish to escape, instead of destroying everything which comes into the pound." This unreliable information Mr. Holmes has gained from old and established fishermen is most injurious, and leads the Department to have a very mistaken belief. For instance, the 2 or 3-inch mesh for the lead is altogether to small, as it would have the injurious effect of leading the very smallest fish into the pot; whereas, with 6 or 7 inch mesh they would readily escape. The inference to be drawn from his report is, that the pot or pound where the fish are captured and retained is of no importance, as he says nothing in reference to it, when it is decidedly the all-important part of the net for capturing fish.

At the earnest solicitation of a petition gotten up and signed by a large number of gill-net fishermen, your Department was induced to abolish the so-called destructive 2½ inch pound-net; and judging by Mr. Holmes, observations, he is evidently inclined to make it more destructive than ever, by saying nothing about the enlargement of the pot, but suggesting that the leader, which was usually 5 should be reduced to 2 or 3 inches, thus making it impossible for small fish to escape becoming impounded. The size of the pound-net which I advocate is to have the leader 6 inches, with the hearts, tunnel and pot or pound not less than 4 inches. After having reviewed the whole of the correspondence sent me, in the most careful way, I am more thoroughly convinced than ever that, notwithstanding the misrepresentations which have been circulated in regard to the destructive qualities of the pound-net, that, when made of the proper dimensions, it is far less injurious than the gill-net system. I have in all probability studied and investigated the relative merits and demerits of these appliances more than any officer of your Department, and am quite confident that I could substantiate the correctness of my views against any opposition.

To my mind, the regulation of the fisheries of the great lakes is one of the most important questions with which the Department has had to deal for many years.

It must be acknowledged that by the present exhaustive gill-net system that these valuable fisheries are being rapidly destroyed, and unless some remedial measures are adopted and stringently enforced it is only a question of a few years until this source of wealth to our people is entirely swept away; and to effect this object I would respecfully suggest the adoption of the following regulations, which could be enforced if considered advisable:—

1st. The close season for salmon-trout and whitefish to extend from 15th of October to 1st of January.

2nd. That $4\frac{3}{4}$ inches be the regulation mesh for gill-nets capturing salmon-trout and whitefish.

When asked by the Minister in Ottawa last winter, I suggested $4\frac{1}{2}$ inch mesh; but since looking into this matter thoroughly, I am convinced that $4\frac{3}{4}$ is the fair and proper standard.

3rd. That the present number of yards of net allowed for boat and tug licenses be strictly enforced.

4th. That boat licenses be raised to $10 and tugs $30.

5th. That fishermen be compelled to bring ashore all decayed and useless fish and fish offal, instead of polluting and destroying the grounds with it; or, in my opinion, the only true way to avoid this ruinous practice, which, without a doubt, destroys important fishing grounds, would be to impose a heavy fine upon fishermen who gut and clean their fish while returning from their nets to their points of shipment.

6th. That no license be granted to persons other than those who make an exclusive business of fishing. The idea is, that such action would do away with unfair competition from parties who fish for only a month in the fall when the fish are easily captured in the act of spawning.

7th. That certain grounds be set aside for natural and artificial propagation, and that a fish hatchery be established at Wiarton, or some other convenient and suitable point on the Georgian Bay.

8th. That a limited number of pound-nets be allowed to be used for the Georgian Bay and Lake Huron.

9th. That the legal mesh for the leaders be 6 inches; tunnel hearts and pot or pound not less than 4 inches.

10th. That the lead shall not extend more than a quarter of a mile.

11th. That only one net in a locality be permitted, and that the present system of setting several pound nets attached to one leader in consecutive order be strictly forbidden.

12th. That care be taken to prohibit the setting of pound or gill-nets at the mouths of rivers and entrances of bays, in such a way as to obstruct the passage of the fish.

13th. That fishery officers be compelled to enforce the provisions of the law, and that all licensed fishermen be supplied with a tag or check, to be produced when demanded by the officer.

Before closing this report I beg to call your attention to the fact that in former years wholesale fish dealers, with moderate capital, were stationed at different points, such as Collingwood, Meaford, Owen Sound and other places, and purchased from time to time the fish brought to market by the fishermen of Georgian Bay; but I regret to say that an extensive Fish Company, composed of American capitalists, have bought or squeezed out all the local dealers, and now have a complete monopoly of the fish caught in these waters. The Canadian fish dealers have to pay three-quaretrs of a cent per pound upon salmon-trout and whitefish shipped to the United States, while the American fish Companies can ship fish caught in the Canadian waters to that country without any exaction of this kind. This means a heavy discrimination against Canadian fish dealers, and makes it almost impossible

for them to compete against American firms. I would suggest that the Department look into this matter, and ascertain the true facts, with a view to remedying this state of affairs, which is not only depleting our waters, but usurping the rights and privileges of *bona fide* Canadian fishermen.

Under these circumstance, would it not be a move in the right direction to fix an export duty upon fish caught in the Canadian waters and shipped to the United States by American dealers? If nothing of a more retaliatory character were arranged, this would at least place the Canadian dealer upon a fair footing with his American competitor. As the Georgian Bay is the main source of fish-food for the Province of Ontario, and the Buffalo fish monopoly now have complete control of it, it is only reasonable to assume—in fact, the present aspect indicates that Canadians will only be enable to secure supplies of salmon-trout and whitefish at a very high market price, and only then when there is an over supply for the American trade.

In conversation with interested fishermen at various points, and in the vicinity of Wiarton (the main export depot of the American Fish Company), I find that considerable dissatisfaction exists among Canadian fishermen on account of the privileges which these American Capitalists have usurped, and which they claim must soon drive Canadians out of the trade of exporting fish altogether.

I have the honour to be, Sir,

Your obedient servant,

CHARLES WILMOT.

APPENDIX No. 7.

THE CANADIAN HERRING INDUSTRY.

(*a.*) Special reports on raising the standard, by:
I. Mr. A. C. Bertram, Inspector of Fisheries, District No. 1, Nova Scotia.
II. Mr. Robert Hockin, Inspector of Fisheries, District No. 2 do
III. Mr. J. R. Kinney, Inspector of Fisheries, District No. 3 do
IV. Mr. J. H. Pratt, Inspector of Fisheries, District No. 1, New Brunswick.
V. Mr. Edward Hackett, Inspector of Fisheries, Province of Prince Edward Island.
(*b.*) Extracts from various sources on the question of packing and curing fish.
(*c.*) Comparison of inspection laws affecting fish and fish oils.

I.

North Sydney, C. B., 31st October, 1890.

To the Honourable
Charles H. Tupper, Minister of Marine and Fisheries,
Ottawa.

Sir,—In accordance with your instructions of the 8th of September, No. 2672-90, I have carefully gone over the "copy of an abstract of the various suggestions and recommendations made to your Department with regard to the sea and fresh-water herring industry of Canada and the best means of raising its standard."

I have made enquiries and consulted with several in my district who are qualified to give an intelligent opinion on the subject. I shall deal with each of the subjects under their respective heads as is done in the abstract.

HERRING.

I may say at the outset that we by the sea know little or nothing of fresh-water herring and have no idea that they should be treated in the same way as our sea herring. Any remarks or recommendations I shall make refer alone to the herring frequenting the waters surrounding Cape Breton. Of these, we have three distinct kinds or varieties: 1st. The "spring run," so called because caught in our waters in the early season in the latter part of April and in May—a small and lean kind, only used for bait, some fresh, but the bulk salted down for lobster and mackerel bait; 2nd. "The summer run," caught in the latter part of June, in July, and sometimes running into August—a large, fat herring, which, when well cured, there are no herring richer in quality or sweeter to the taste; 3rd. The "fall run," caught in September—as large in size but not nearly so fat or delicate as the summer or July herring, but of fair quality.

These three kinds being different, the one from the other, it will readily be seen that no one certain system of cure will suit all three, and that methods suitable to the kind, season and quality must be adopted to produce the most satisfactory results.

Our spring herring have little commercial value, and, for the purpose of your enquiry, may be dismissed from consideration, with simply saying that some restrictive measure or regulation should be adopted to prevent the wholesale destruction of these fish, as is sometimes done when they "strike in" in large quantities and they are used for manuring land.

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The question of raising the standard of our summer herring is one of lasting importance to the country, and the attention and consideration given the subject by your Department is in every way praiseworthy, and must be fraught with great advantage to this fishing industry. That this fish is greatly undervalued is best known to those who have been fortunate enough to taste some thoroughly cured Cape Breton summer herring, and it is too much to be feared that this low estimation is largely due to the causes of which the Montreal Board of Trade complain—"bad preparation and fraud practised on the trade." Most emphatically it is not due, as Mr. Gunn seems to intimate, to the "inferior quality" of the fish. I have not in the slightest degree overdrawn in describing the good qualities of our summer herring. I firmly believe that if the fishermen of this coast could be induced to give better attention to the curing of their catches of herring and could successfully place them on the markets of the country in thoroughly good order, after carefully culling and properly grading the different kinds, the result in increasing the public appreciation of this article of food would prove highly satisfactory and remunerative. These remarks will apply with equal force to the September herring, but as they are caught at a time of year when they are not so liable to spoil, the same amount of care in curing is not expected.

CURING.

The delegates to Scotland strongly favour the Scotch method of curing; but I find very few of our fishermen, whose opinions are entitled to weight and consideration, agree with them in applying that method or system to our summer herring. These are delicate and sensitive to the influence of the sun and our summer heat—they are, you will observe, caught in our hottest season—when exposed thereto for even a few minutes. Any damage done them at this stage cannot by any possible attention thereafter be overcome. This, however, does not, as I have already pointed out, apply to our fall or September herring, and I am fully of opinion that the Scotch method of curing applied to these latter would be quite the best that could be pursued by our fishermen, and calculated to bring about the best results.

With our summer herring, there is no question that the best results have been attained by first after taking the fish out of net, carefully covering and protecting them from the rays of the sun, getting them ashore and under a covered and cool place as quickly as possible, gibbing, splitting them up the bellies and scraping the blood from their backs with a knife rounded like a small table knife, and washing, but not allowing to soak, in sea water frequently changed. It would be a great improvement if this water could be kept cool by lumps of ice—indeed, it would be a most decided improvement, if when taken out of the net and covered, preparatory to taking them in, lumps of ice could be thrown on them and under the covering. They should at once be carefully packed in barrels well soaked in water and tested to the light, first filling their bellies with salt and laying them on their backs, head and tail in circular form, as preferred, and scattering a little salt over each layer about the stave especially. Enough salt will adhere to their backs to preserve them until the brine or pickle runs around them. It is a mistake to say our fat summer herring are injured or lose their flavour by over-salting. Liverpool salt is what is chiefly used around the east and southern shores of Cape Breton. If they could be induced to use Trapani or St. Martin's salt I am strongly of opinion that an improvement in the curing of herring would result.

BARRELS.

In view of the unqualified conclusion of the Montreal Board of Trade, already quoted, it is, I think, simple justice to those engaged in this arduous occupation to say that one of the chief factors in depreciating herring is found in the barrels being constructed of wood so thin and hooped so unsecurely that they are not able to stand the "rough and tumble" they are subjected to in transit by road, boat and rail. Our fish must eventually find its best markets in the western and prairie Provinces, and to place herring in those distant markets we must, I believe, put them up in barrels

made of the harder kinds of wood—at least, the large packages, such as 200 lbs. It will' I fear, be difficult to get the fishermen to adopt the hardwood barrel. The price generally paid for 200 lbs. of herring put up and barreled is about $4 to $4.50; and at $1 for the barrel, with the cost of salt, it will be seen that one-third of the price received goes to cover salt and barrel. Unless it can be fully proven that the price this fish will realize so put up will more than pay for the increased cost of the hardwood barrels I see no way of overcoming the objection Mr. Bauset seems to anticipate.

INSPECTION.

I fully concur in the opinion expressed by the Montreal Board of Trade, that "the repeal of compulsory inspection was a step in the wrong direction." Inspection should be done on the spot, and not in cities, where it cannot be done without damage to the fish and increased cost to the packer. With due care in selecting properly qualified inspectors, stringent regulations and penalties adopted, in which the responsibility of the inspectors should not be overlooked, to prevent packing unsound with sound herring, and making the fees low, I do not see why a very decided improvement in their preparation should not be noticeable, and think it well worth a trial.

GENERAL REMARKS.

I do not think it out of place to observe that, in my opinion, another cause of the bad preparation of our herring may be traced to the fact that in nearly every instance each fisherman packs and cures his own catch. In this way we have many methods or ways of packing, and as the fisherman fancies his responsibility ceases when he gets them off his hands he is rather anxious than otherwise to palm off an unsound fish when he can. On the other hand, if we can have large quantities put up by regular curers these latter would have a personal interest in getting a reputation for putting up superior stock.

I should exceedingly like that the suggestion made by Mr. Gunn, respecting a trial of the methods of curing and barrels, recommended with reference to lake or fresh-water herring, be tried in its fullest sense with our sea herring. If this were done, and they were then sent to Industrial and Agricultural Exhibitions in the western Provinces, I am quite confident the fine qualities of our herring would receive such favourable notice that it would prove a valuable incentive to our fishermen to strive and raise the standard of their products.

I have the honour to be, Sir,

Your obedient servant,

A. C. BERTRAM,

Inspector of Fisheries.

II

PICTOU, 31st December, 1890.

The Honourable

CHARLES H. TUPPER, Minister of Marine and Fisheries,

Ottawa.

SIR,—In compliance with circular No. 2,672 upon the herring fishery, I have the honour to report.

The points raised in this circular are: 1st. The general decline in the herring fishery; 2nd. A compulsory inspection of fish; 3rd. Inspection of packages.

To the herring trade of Nova Scotia there are known two distinct grades of fish—one caught in July, and always distinguished as July herring, which is a very superior fish, unsurpassed by any other; but it is said that there are degrees of

excellence even in these—that herring taken in July from Cape North and Louisburg are larger and fuller than those taken from Louisburg to Halifax, which again excel in quality those taken between Halifax and Sable Island.

All other herring than the July fish are classed as inferior fish, being lean or spent fish, and the only market for them being the West Indies, where they are consumed by the negroes, and because of their being devoid of fat they keep in the hot climate.

It is said that those fish of this quality which are shipped to Boston ultimately find their way to the West Indies.

A large business is done in this poorer herring, the price averaging about $3,00 per barrel, while that of July herring averages about $5, being no less than the same fish brought fifteen years ago.

The decline in the volume of trade is owing to the fact that fewer fish are taken now than formerly; firms in Halifax which formerly handled 10,000 barrels do not ship 1,000 now—they are not to be had. With the decline in the quantity there is perhaps no corresponding increase in price, because it is suggested that owing to the general prosperity of the country people live better than they did under the régime of free trade, and more expensive and presumbably more substantial and palatable food is consumed in preference; perhaps also for the reason that the price is not very remunerative the fishery is not prosecuted with vigour, the mackerel fishery offering greater rewards. Upon the question of compulsory inspection of herring, the Halifax Board of Trade, on 25th April, 1890, considered certain propositions, which I believe were prepared by Messrs. Henry Hart and Charles Creed, advocating a compulsory inspection of herring and submitting a standard.

"A" No. 1 to be 11 inches and upwards.
"B" No. 2 do 9 inches to 11 inches.
"C" No. 3 do under 9 inches.

I wish to suggest that such a standard would be far from indicating the value of the fish, and that a July herring 11 inches and a fall herring 11 inches are very different articles.

I found in Halifax, among the merchants I consulted, a decided opinion against inspection of fish being compulsory.

Mr. A. W. Smith says he has met more fraud under inspection than can be without. He is a large dealer in fish; they inspect their own, and can do it much more cheaply and to their own satisfaction than possible with official inspection. They brand the fish as packers; their brand is accepted as reliable, and every thing is satisfactory.

To inspect fish and brand the quality sold to the West Indies as No. 3 fish would be injurious to the trade; for, as a matter of fact, they are No. 1 fish for that particular trade.

The Messrs. Hart & Co., West Indies, and fish merchants, also do not favour compulsory inspection. Both Messrs. Hart and Smith propose as a substitute, that packers be required to brand their own names upon the packages.

Mr. D. F. Power does not favour a compulsory inspection of fish; but all of the foregoing are decidedly in favour of an improvement in the packages.

The Inspector of Fish for the city of Halifax has occupied that position for a number of years, appoints his own deputies and imposes fines upon them for dereliction of duty.

This inspection meets with approval and is relied upon. Merchants willing to guarantee fish that have passed a city inspection would not do so upon an inspection outside of the city.

This inspector is of opinion that there should be compulsory inspection, and especially so of packages.

Regarding the kind of wood for packages: Pine is not used for fish barrels, and hardwood is impracticable being much too expensive. What is wanted for fish

is a barrel of $\frac{3}{4}$-inch staves, with sixteen hoops; hoops to be not less than $1\frac{1}{8}$ inches at the smallest part. Wood for staves should be seasoned, and made of larch or spruce, free from sap.

Cheap fish are now packed in barrels, with staves in some instances not exceeding $\frac{1}{2}$ inch.

The inspector is of opinion that if a reliable inspection could be had it would soon make itself compulsory, because the trade would only handle first-class goods that had been inspected.

If some device could be secured that would give sufficient distinctness to inspected fish—say, for instance, require them to be stamped in large letters "Officially inspected," and the name of the inspector to be branded; have the barrel staves, where not covered with hoops, painted—say blue. Then buyers would soon learn the value of the inspection, if it had a value.

The law would, of course, have to make it so far compulsory that no fish should be branded or stencilled as No. 1 Prime Fish, Crown Prime, &c., except as done officially.

This, it would appear, would be elastic enough to allow sufficient freedom for a trade to be done in unbranded fish, and at the same time the public would soon learn the value of inspection.

I would further suggest that, in addition to requiring that each packer of fish brand his own name on it, that imported herring should be branded with the name of the place from whence they come. Newfoundland herring is an inferior fish, and should be branded "Newfoundland herring."

I have the honour to be, Sir,
Your obedient servant,

ROBERT HOCKIN,
Inspector of Fisheries.

III

YARMOUTH, N. S., 1st December, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with circular *re* herring trade, I have to say that the manner and mode of taking and curing herring, and marketing the same, which prevail in this district, are of such a nature that I cannot conceive of any legal enactment which would be of benefit or profit either to the producer, buyer or consumer.

The writer was prominent in inaugurating the movement for amending the inspection laws, to the extent of making the inspection of herring optional. The reasons given at that time were formed upon the basis of a quarter of a century of contact with the producer, and nearly a like time as a dealer in the article under review.

Herrings are taken in western Nova Scotia by small boats, often manned by a single man, and rarely more than three. The fish are cured in small quantities and packed to suit the purchaser, who is the trader buying to ship to the West Indies and United States, in neither of which countries are any marks of quality or inspection noticed, the fish being sold solely upon their merits, upon being opened and examined.

I can readily understand that in some parts of Canada, where fish are taken in large quantities and packed for sale in other countries than those I mention, the same rule as to packing, &c., does not apply. For instance, herring, I understand, are

sold in Montreal and Quebec upon the merits or demerits of their brand, in which case it might become needful that some legal significance should be attached to the marks; but, as I have stated, there is no necessity for any change in the present regulations, so far as this district is interested.

I have the honour to be, Sir,
Your obedient servant,
J. R. KINNEY,
Inspector of Fisheries.

IV

DOMINION S.S. "DREAM,"
ST. ANDREW'S, N.B., 31st October, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In reply to your letter of the 8th ult. (No. 2672-90), including copy of an abstract of the suggestions and recommendations made to your Department regarding the herring industry of Canada, and requesting from me a report on this subject, after making enquiries among those persons best qualified to give an opinion I beg to report as follows:—

I have made, as directed, every possible enquiry among fishermen and dealers engaged in the herring industry, and as taking and curing this fish form one of the principal occupations for the inhabitants of this division it is therefore a subject on which they can speak intelligently. Of course, the sardine and smoked herring industry supplies remunerative employment to a large number of fishermen the greater part of the year, but nearly all of them owning schooners fit them out about September, when the schools of large fall herring strike our shores, and begin netting them for pickling purposes.

A large fleet of schooners each autumn moor in Three Island Harbour, Grand Manan, and set their nets in the surrounding waters. About forty schooners are anchored there and in its vicinity at the present time, and as pickled herring commands a good price, and the catch being good, our fishermen will be enabled to make a good fall's work.

I write the foregoing to show how important this herring industry is to the fishermen of the Bay of Fundy, and what an immense quantity of fish are taken and packed by them during a season.

Among this fleet there are many old, experienced fishermen, who have nothing to learn in reference to the correct method of curing and packing herring, and who put up their catch in a first-class manner. But there are others again who will not exercise any care, and seem to make it a point to put up as large a quantity as possible, without the slightest regard to quality. They are well aware that without a compulsory inspection law they can command as good a price for their catch as their neighbour who puts up good fish.

The decrease in the demand for pickled herring is attributed by many, and it is also my opinion, to the careless methods pursued by many fishermen in curing and packing their catch. Although they are well aware that by placing badly cured fish on the market the confidence of the buyer will be destroyed, still there are many who yet pursue these careless practices, well aware of the results, which cannot be otherwise than detrimental to their own interests.

In regard to the question of barrels, the kind used altogether in this division are made of spruce, with pine heads. None are made or used here with pine staves.

Opinion among the fishermen and dealers is in favour of spruce barrels being continued in use and no compulsory change made to hardwood barrels. I do not find much complaint regarding spruce barrels; they seem to answer their intended

purpose, if proper care is exercised in their construction. Where the half-barrel now costs 35 or 40 cents and the barrel 60 or 65 cents, they feel that an increase to 75 cents and $1 for a half-barrel would be an injury instead of a benefit to them, and they do not believe the price would increase to correspond with the increased cost of the barrel.

I would not therefore recommend a compulsory change in the matter of barrels at the present time, trusting to the good sense of our fishermen to use none but good ones, and the judgment of the inspector in examining all barrels thoroughly.

In reference to the subject of curing herring, the fishermen of these waters believe that they fully understand the proper method to be pursued in curing and packing herring, and from what I have seen I am firmly of the same opinion. If they do not practice the best method it is not because they are ignorant of it.

The method employed by them to put up good fish is, to "gib" the herring as soon as possible after being taken from the nets, and with a very little washing (if any), in order to clean the blood off them, pack in barrels, with a generous supply of salt, especial attention being paid to having the bellies of fish well filled with salt. A slight cut is made in the fish near the back-bone, to enable the salt to penetrate in that vicinity.

They are afterwards re-packed in new salt, when the old pickle, which is discoloured by the blood, is removed, and new pickle made and poured over the fish. After being headed up, they are ready for shipping to market.

INSPECTION.

The matter of inspection of herring is a subject in which all fishermen take a sound interest, and all I have conversed with on the subject, together with many fish dealers, believe that a compulsory inspection law cannot be adopted too soon. To ensure proper inspection, I think it would be advisable to have it done at the several fishing villages near the fishing grounds, a reliable, practical fisherman to be appointed as inspector in each village, who will thus be personally acquainted with each fisherman, and will therefore know who puts up good or bad fish. This knowledge will assist him materially when the fish come before him for inspection. It is also my opinion that the fees should be light, and be borne by the curer. As fishery matters are at present in these waters, the fisherman finds that after catching his herring, instead of using his time boating his fish to somebody else to pack, or to a factory, it is to his interest to cure and pack the fish himself, and he can; if required by an inspector, put them up just as well as can be done at a factory.

Mr. Gunn's recommendation, that a number of barrels of pickled fish of a different kind, each packed in a different kind of barrel, and to be stored at Ottawa for a time, is in my opinion a good one, and should be carried out, in order that the question whether the wood composing the barrel affects the flavour of the fish or not should be settled. I find that our fishermen are not aware if fish take up any flavour from the wood composing the package.

Trusting the foregoing will be satisfactory.

I have the honour to be, Sir,

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries.

V

TIGNISH, P.E.I., 12th November, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to acknowledge receipt of your letter of 8th September, accompanying certain recommendations made to the Department with regard to the herring industry of Canada and the best means of raising its standard. As directed, I consulted with persons engaged in the fishing industry in all parts of this Province, and whose long experience qualified them to give an opinion on the subject. The general opinion, as expressed to me, was, that the decline of the herring industry was mainly due to the careless manner in which the curing and packing was done by those engaged in the business, who as a rule, make the herring fishing subsidiary to other branches of the fishing industry, and consequently do not give it proper attention.

The result has been an inferior article, scarcely fit for food, and which the consumers will not use while they can obtain other kinds of fish. To raise the standard of Canadian herrings will require a decided change in the mode of handling the fish, from the time they are taken out of the water until placed on the market for sale as a finished article. At present the curing and packing are done in a very careless and imperfect manner.

The fish, when taken from the nets, are allowed to remain a considerable time before being gutted; no salt is thrown among them at this period, and many of them are spoiled before the gutting takes place. After being gutted they are thrown into barrels and salted, no attempt being made to separate and remove the injured and broken fish, or to sufficiently "roose" them with salt before placing them in the barrels. Then after being covered with pickle and the barrels coopered in an imperfect way they are considered ready for sale. A system of this kind pursued with regard to any commodity must result in lowering its value, and it is not surprising that a decline has taken place in the herring industry.

In referring to the different parts of the process of curing and packing, I beg to take them in the following order:—

CURING WHEN TAKEN FROM NETS.

This is the most important stage through which the pickled herring passes in preparing it for consumption. Any neglect at this time will result in making an inferior article, and no subsequent use of salt or pickle can restore the loss. When the fish are taken from the nets they should be gutted with all possible speed. If any time is allowed to elapse between the landing and gutting, salt should be strewn in liberal quantities over the fish, which will have the effect of hardening them, thus preventing heating or tainting. The gutting should be done by skilful and experienced operators, who would be able to perform their part of the work with rapidity and dispatch. After passing the gutting process the fish should be placed in troughs or tubs, where they could be effectually "roosed" with salt before being packed. They should then be packed in layers in good barrels, a sufficient quantity of salt being sprinkled between each layer of fish, and in warm weather it is a wise precaution to place a little salt in the belly of each herring at the time of packing. There is considerable diversity of opinion with regard to the quantity of salt necessary to properly cure a barrel of herring, some holding that one and a-half bushels are required, while others contend that one bushel is sufficient.

My opinion is, that one bushel of salt is sufficient to cure a barrel of herrings, and that Liverpool salt of good strength is the best, as it will strike the fish more quickly than salt of a coarser grade.

Too much salt should not be used, as it has the effect of drying up the fish and rendering it tasteless. Washing before salting, so extensively practised by Canadian

curers, should be prohibited, as it injuriously affects the quality of the fish. As the fish settle down in the barrel more should be added from day to day until the barrel is thoroughly filled and ready for coopering. The cooper should examine the barrels carefully each morning, and see that all are perfectly tight and full of pickle.

While this process is going on the fish should be kept as much as possible from exposure to the weather, and the barrels, when completely packed, should be covered and kept from the sun and rain.

BARRELS.

The herring barrel should be a strong, substantial package, made of good, sound wood, and bound with the best quality of ash hoops. I notice what is stated in the recommendations with regard to substituting hardwood for softwood barrels, as at present used. There is no doubt but barrels made of pine, fir or cedar are not suitable for packing herring.

Barrels made of those kinds of wood are generally of a poor class, most difficult to tighten properly and will not stand the rough handling to which they are subjected in course of transportation. I am of opinion, however, that a good spruce barrel, properly made and bound with ash hoops, would be found sufficient to answer all purposes in the herring industry.

Barrels of this kind would be very strong, are easily tightened, and calculated to stand a great deal of handling.

The material for making them could be readily procured in the Maritime Provinces, and the cost would not exceed $1 each.

The undersigned was for many years engaged in the fishing industry in this Province, and has exported thousands of barrels of mackerel (a much more delicate and valuable fish than herring) by railway and steamboat to the American markets, and never met with any serious loss from breakage or leakage, and did not hear any complaints that the wood imparted a foreign taste to the fish.

The barrels used in this business are made of spruce, and I am fully convinced that such barrels would be found suitable for packing the best quality of herrings.

Hardwood barrels would be expensive, and I fear that any regulation compelling their use would be oppressive, and, instead of stimulating, would rather restrict the industry.

INSPECTION.

On the subject of inspection a great deal of difference of opinion exists. There are numbers of men of long experience who state that compulsory inspection is of no benefit to the trade, that the fish are sold on their merits, and that compelling a packer to pay a fee for the use of a brand that is of no service is a great hardship. With this view I cannot agree. My opinion is that there should be a strict inspection of pickled herring within Canada, that this inspection should be compulsory and that all packers and dealers be compelled to bring their fish up to a given standard. Herrings packed in the country could be inspected at the curing houses before being offered for sale, while on importations from abroad the inspection might be made at the port of entry. The inspectors should be competent men, having a thorough knowledge of the industry, and should be required to give bonds for the faithful discharge of their duties.

Proper standards should be established, and no person allowed to deal in an article not up to the required grade.

A system of this kind would have a great effect in restoring confidence in the trade, as the brand affixed would to some extent be a guarantee that the article was as represented, and would undoubtedly materially assist in raising the standard of the herring industry in Canada.

I have the honour to be, Sir,

Your obedient servant,

EDWARD HACKETT,

Inspector of Fisheries

EXTRACTS FROM VARIOUS SOURCES ON THE QUESTION OF PACKING AND CURING OF FISH.

Rev. John Ambrose, on Margaret's Bay fishing grounds, in "Proceedings and Transactions of the Nova Scotian Institute of Natural Science, 1866-67, Vol 2, part1.

* * * * * * *

"One remark, however, I may venture with reference to the barrels in which our Nova Scotia herrings are too frequently packed. They are not only defective in material but faulty in size, for many of them are too large, so that the fish working loose, become softened and spoil in long voyages to warm climates.

"A good system of inspection of both fish and packages is a great desideratum in this Province. A Chief Inspector, thoroughly competent to teach our fishermen the best and most improved systems of catching and curing fish, would prove a very valuable officer, if possessed of zeal and tact. His salary should be paid out of the public revenue, and not by the fishermen, who would also be expected to pay the deputy inspectors (page 76.)

* * * * * * *

"A very considerable proportion of the catch of mackerel is annually lost to the Province by the very careless method of curing and packing too frequently followed on our shores. In the first place they are often left too long exposed to the sun and air before salting, and for this cause many barrels of Nova Scotia mackerel are every year condemned in foreign markets. Another evil is the insufficiency of the barrels used by too many fishermen. Two hundred pounds of No. 1 fish, worth from $12 to $15, and sometimes even $20, are too often packed into a barrel costing 25 or 30 cents, made of knotty and unseasoned stuff, and therefore dear even at that price. These barrels bear no rough handling, soon shrink and lose the pickle, the contents are spoiled, and the character of our fish is depreciated in comparison with those of other countries (page 74.)

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"If the proposed negotiations with Brazil and other Roman Catholic countries should open up new markets to our staple products, a great deal has yet to be learned by our shore and Labrador fishermen in the way of curing fish for such markets; for that which has been tolerated among the negroes of the Southern States and the West Indies will not tempt the fastidious palates of the more civilized people, with whom we soon hope to trade. Time forbids my entering on the superior mode of curing cod, hake, haddock and pollock practised by the leading Jersey houses, which gives them a decided advantage over us in the fish trade," (pp: 42 & 43.)

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Report of United States Commission of Fish and Fisheries, 1886, part 14, p. 155:—

"The preparation of fish for the market has also been the subject of legislation. Many nations which pay no particular regard to the times, places, and circumstances of the sea fisheries have considered it expedient to secure the interest of the purchaser by regulating and restricting the mode of preparation and packing, this being the case, perhaps, more especially in the Scandinavian countries and Holland than elsewhere. The herring fishery in Holland was formerly kept, in all of its stages, under the control of the Government, although of late years this is more particularly confined to the packing and inspection."

Quebec Board of Trade, 22nd February, 1865:—

"OFFICE OF THE QUEBEC BOARD OF TRADE,
"QUEBEC, 22nd February, 1865.

"EXTRACT *from a report by a sub-committee appointed to examine into the provisions of the Bill M, "An Act to make better provisions for the official inspection of Fish and Fish Oils," received and adopted by the Council this day:*

"'Your Committee recommend that the Council oppose the inspection or culling of dried or green codfish in bulk. From the nature of the business it would not be possible to provide inspectors on the coast in sufficient numbers to perform the service—nor, if performed, would it be of any use, inasmuch as the fish could not be identified. A system of this kind would prove a hindrance to the fishermen, and of no utility, except for statistical purposes, for which other and more suitable measures can be devised.'

"Certified correct.

"A. FRASER."

Report of the Department of Marine and Fisheries for the year ending 30th June, 1871. Report of the Honourable Peter Mitchell page 64:—

"The voluntary system which at present exists does not either prevent the frauds practised in curing and packing fish nor enhance the value of the produce of our fisheries in foreign or home markets. Complaints are rife of the vexatious impositions and losses to which purchasers of pickled fish are now exposed and of the consequent depreciation of the character and price of this commodity throughout the agricultural districts and amongst the population of the interior especially. The Department has received from various quarters urgent representations on this subject. It is still under consideration, but although unprepared as yet to suggest legislation, I hope soon to be in a position to submit to the Government a measure on the subject which may prove acceptable to the fishermen and to the trade, and also beneficial to consumers."

"To the Honourable
"The Minister of Marine and Fisheries."

Report of the Department of Marine and Fisheries for, the year ended 30th June, 1872. Report of Hon. P. Mitchell, page 62:—

Inspection of Fish and Fish Oils.

Government propose to include in consolidation of inspection laws a scheme to ensure proper curing and packing of fish and fish-oils. An Inspection Bill is intended to be submitted to Parliament, amending and consolidating the existing Provincial Acts *re* inspection of certain staples of Canadian produce; also extending the measure to the whole Dominion of Canada, and including the produce of the fisheries in its provisions. This Act will embody the system contemplated in my remarks on the subject in the last Annual Report. Nothing has been done for the official inspection of fish and fish-oil under the existing laws. Frauds practised in curing fish still continue, and no efforts have been made to enhance the value of our fisheries in the markets. Complaints are prevalent of the impositions practised and the losses to which purchasers of pickled fish are put, and urgent representations have been received by the Department on this matter. After the failure of the voluntary system, after so long and fair a trial, it appears very desirable to try the experiment of a compulsory one."

Letter from Mr. Alfred Ogden :—

"OTTAWA, 7th June, 1889.

"SIR,—At your request I now give you my opinion upon an industry which is of importance to a large number of the citizens of Canada and could be made much more valuable. I have spent nearly all of my life among fishermen, and have for over thirty years been engaged in the catching and the curing of fish. Although the herring fishing industry, according to the reports of your Department, stands but fourth, and the present prices are very low, yet with a little care and attention it could be made to assume much greater proportions.

In the Maritime Provinces herrings are now packed in barrels made of soft wood (except the bung stave), with wooden hoops, in the same manner as they were half a century ago, when they were carried to market by water in sailing ships and carefully handled. Now, being carried chiefly by rail and steamships and subject to rougher handling, the chimes of the barrels are frequently broken and the hoops seperated; consequently, the pickle leaks out and the fish become dry and rusty and unfit for food. This is perhaps the chief cause of the deterioration in the value of and the demand for sea herrings in the markets of the Upper Provinces of the Dominion. More care should certainly be taken in packing these fish for shipment. The blood should be thoroughly soaked and washed out, and care should be taken to put enough salt in the barrels to save them. They should be packed in barrels bound especially around the chimes with iron hoops; the fish would thus reach the markets in proper condition, and, once their reputation was established, would command a much higher price, besides being in greater demand than at present, which would more than recoup the extra cost of more careful cleaning and the using of iron hoops on the barrels.

"Wooden-bound barrels suit tolerably well when for one direct shipping; but transhipped and handled roughly once or oftener, they are very liable to become damaged, as before stated.

"I was entrusted with the duty of collecting and re-packing about all of the commercial samples of dry and pickled fish that were exhibited at the Great International Fisheries Exhibition held in London, England, in 1883, which were sent from Ontario and Nova Scotia. I took great care in packing the pickled fish in good substantial, iron-bound barrels, and I was pleased to learn from the Hon. A. W. McLelan (then Minister of Marine and Fisheries) that these fish were superior in quality to any others shown at that exhibition.

"I extract from the report of Department of Fisheries, 1884 (Preliminary), page 27, the following, referring to dried as well as pickled fish, which were entrusted to my supervision :—

"'Dried Fish.—This exhibit consisted of codfish, haddock, capelin, boneless cod and hake, cod, sturgeon and hake sounds, &c., &c. The samples were shown in large glass cases, and the cod especially, for soundness, preservation of colour, taste, &c., were not equalled by any in the exhibitiion. Whilst other countries had to replace or supplement their stock from time to time, on account of deterioration in the damp atmosphere of London, the samples from Canada remained unchanged and uninjured during the whole exhibition. For this class of exhibits the highest awards and three gold medals were given. It is believed that considerable trade will yet spring up between Canada and fish markets of England from the introduction of our staple fish through the channel of the Fisheries Exhibition. Inquiries have already been made by reliable English houses for consignment of our dried, pickled and canned fish.

"'Pickled Fish.—The samples of pickled fish were numerous, of great variety well preserved, and were put up in barrels, half-barrels, kits or boxes. The wooden heads of the packages were taken out and glass ones substituted, so the whole exhibit was ever open to the public for inspection. The samples of this exhibit, from almost every Province of the Dominion, consisted of herring, mackerel, haddock, shad, salmon, trout, whitefish, eels, tongues and sounds, &c. These fish all

kept well, as they were intentionally salted somewhat heavier than if they were to be placed at once on the markets, and received most favourable notice, not only from reliable fishmongers and practical fishermen, who frequently inspected them, but also from the jurors, who awarded the exhibit three gold medals, three silver medals and two diplomas of honour.'

"Our fishermen are not slow to adopt any new mode or style of curing and packing fish, if it can be shown to them to be of any advantage, or that any benefit can thereby be derived.

"I may say I understand not only the catching and curing of herring, but also packing as well, and I feel confident that if the fishermen of our country could be taught that it is to their interest to give more time and expense to the curing and packing of these fish the result would not only reward them, but be of great service to our export trade.

"I have the honour to be, Sir,
"Your obedient servant,
"ALFRED OGDEN '

"The Honourable C. H. TUPPER,
"Minister of Marine and Fisheries,
"Ottawa."

From a letter from Mr. John A. Boak, St. Paul, Minn., 4th March, 1890.

"I am in receipt of your favour of 28th ult., and am obliged for the reports.

"It will give me great pleasuse to give your Department my views on same. My company import upwards of a thousand barrels of herrings from Norway annually, and about ten thousand kegs of herrings from Holland, besides those we get from Nova Scotia and Newfoundland.

"I have for the past ten years tried to impress on the Nova Scotia shippers the necessity of using better packages and packing their fish full (200 lbs.) two hundred pounds to the barrel but without success.

"I have yet to find the first barrel of sour Norway herring, but regret to say that we scarcely ever receive a shipment from Canada but we find more or less sour and rusty fish.

"We have repeatedly made claims for allowance for such goods, but have invariably had the same reply: the goods were inspected by a Government inspector, and we cannot make any allowance."

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Report on the Cure of Codfish and Herrings, by Adolph Nielsen, Superintendent of Newfoundland Fisheries, 1890.

THE CURE OF HERRING IN EUROPE.

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"If too much salt or too strong pickle is employed, the flesh of the herring will after a short time become hard and dry, and will be deprived of its real good and natural flavour. The less salt and the weaker pickle can be used the longer and better it will retain its nice flavour; but on the other hand, if sufficient salt and proper pickle is not employed, the herring will get tainted, and not fit for human food. The art of curing herring as well as other fish with salt depends mainly upon knowledge of what quantity really the different kinds of herring take in different seasons, and what quantity of salt is required to preserve the herrings for the various markets, and in different ways they are to be treated for such markets.

"In Europe the salted herring for export are all put up either round or mostly gibbed or gutted; none, as far as I am aware, are ripped down the stomach, as they do in Newfoundland, the Dominion of Canada and partly also in the United States. In each of these instances different quantities of salt must be employed. A round

herring takes more salt than a herring which is gibbed and gutted, and these last again more than the herring which is ripped in the stomach and all the entrails removed. Again, a fat herring takes more salt than a lean one; a large herring more than a smaller one; and in the hot season of the year all herring requires more salt than in the cold season.

"Besides the proper amount of salt employed to the different kinds of herrings for the markets and in the different seasons of the year, due attention must also be paid as to how the herring is treated, packed, and what kind of barrels is employed, if a real good article shall be obtained, (page 50).

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"The ripping of the herring down the stomach and the removal of all the entrails and blood, before it is put in salt, is certainly the most proper and complete mode of treatment; but as the continental consumers of herring generally value either the fat of the milt and roe very much, this way of treatment finds no acceptance in Europe. It has, therefore, to be cured according to the consumer's taste, with the fat, milt and roe left in the fish, in order to meet a demand in the markets, (page 52).

Object of Gibbing and Gutting Herring.

"The object of gibbing and gutting is:—

"1. To liberate the herring from the blood, which is done by the removal of the gills, the throat and heart.

"2. To remove such ingredients as are already in a state of decomposition (such as the stomach and intestines), or such matter as is most apt to decay, before the salt has a chance to penetrate into all parts of the herring.

"3. To give the pickle a better chance to act upon the herring, as well from the inside as from the outside, through the skin.

"4. Finally, to lessen the quantity of salt used in the cure of herring, and thereby improve the flavour of the fish.

"In Norway, as a rule, only the throat, pectoral fins, the heart, and in some cases the gills, are removed. By this operation, which is done either by tearing out a piece in the throat with the fingers, or by clipping it out with a scissors made for that purpose, the first object (to remove the blood) is obtained, and even this only partly. The Dutch and the Scotch remove the gills, throat, pectoral fins, liver, heart, stomach, crown or blind gut, if the herring is intended for export to foreign countries; and by this operation the full object of gibbing and gutting is obtained. What is left then is only the milt and roe, which some people are very fond of. The blind gut is claimed by many curers and consumers to give the herring a nice flavour, and for this reason it is often allowed to remain," (pages 52 and 53).

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"*Newfoundland Herring.*

"Although the Newfoundland herrings are large, they cannot compare with the best Labrador or European herring in fatness and fine flavor. Still, the good winter herring, which I have seen in Placentia and Fortune Bay, are fully equal to the herring caught in Europe in the winter and spring, if not better; and if put up in a good European way would I consider, be fully able to compete with those herring in the American markets. Whether these large herring would suit the European markets is a question. The continental people, as a rule, do not care much for very large herring. They consider the flesh in those too coarse, (page 54).

"*Qualities of the Good Herring.*

"Concerning the nature of the fresh herring, it is required, in order to obtain a good article, that the herring also possess certain qualifications, such as sufficient size and maturity, fleshiness and fatness. A lean, dry, dismembered or half-rotten herring can never give a good article, even if it is cured ever so well. A small

herring, which has not reached the full state of maturity, fetches only small prices in the markets. Of much importance is also the development of the sexual organs. If these are in a far advanced state, the herring loses in fatness and flavour. These should be firm, and the whole flesh penetrated with a certain quantity of fat. Large amounts of fat around the blind gut is a sign of the herring being fat right through the flesh. As a rule, ocean herring (such herring as pass most the of the time in the ocean, and only approach the coast for reproductive purposes) are considered superior to the herring that keep themselves close to the coast or in the bays all the time. Of these herring again, those which are caught in deep water are better than those caught in shoal water. A first-class herring is known by its small head, short and plump body; is broad across the back, and plump towards the tail, and has got a great depth from the back to the abdomen, which gives this a well-rounded shape, (page 54).

"*Importance of early Salting.*

"In order to obtain a good article of salt, cured herring it is necessary that the herring is liberated from its food, and put in salt as soon as possible after being brought out from the water. Even if the quality if ever so fine, a good article can never be had if it is not properly treated during the whole cure. The Scotch herring cannot get the official Crown brand except they are salted at least twenty-four hours after being brought out from the sea. As a rule, the curers do not care about herring which is more than twenty-four hours out of the sea before they are landed, and only take those at a low figure. In Holland, even, a distinction is made between the herring which are taken out first and those which are taken last from the nets. The cure of herring on board the fishing crafts commences therefore, if circumstances allow, soon after the nets are hauled in. To leave the herring exposed to the hot sun while being conveyed to the salting place, or to leave the herring in the nets until the shore is reached, if the catch has taken place a long distance off the shore, is objectionable. An old law in Norway, of 1775, even prohibited people from taking such herring from their seines, in the summer time, before 10 o'clock in the evening and after 5 o'clock in the morning, if it was going to be salted for export," (pages 54 and 55).

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"*Best Salt for Herring.*

"In regard to what kind of salt is the most suitable for salting herring, it is difficult to give any one sort the preference. The choice of salt depends much upon how the herring is going to be cured, and upon the size and quality. The main thing is, that the salt is clean, and that it is used in proper quantities. Fine and watery salt melts quicker, but gives weaker pickle. In cases where it is of importance to form pickle speedily fine salt is preferable; while coarse salt is better for use in filling and re-packing, or when the herring is intended for export to hot climates, or to be kept in stock for any length of time. The Scotch curers use Liverpool salt, the Dutch light Cadiz or Lisbon salt, while the Norwegians use St. Ybes salt. It is of much importance, as formerly stated, to put the herring in salt as quick as possible, if a first-class article shall be obtained. For this reason the Scotch, as the herring is landed, spinkle it heavily with salt in bins or vessels made for that purpose, before it is gibbed and gutted. Generally they use one barrel of Lisbon or coarse Liverpool salt (or sometimes both mixed) to about ten barrels of herring. By this means the herring keep their scales better and brighter, and can also be handled better and quicker, when they are afterwards gibbed and gutted. The Hollanders roll their herrings in trays filled with fine Liverpool or St. Ybes salt as soon as they are gibbed and gutted, before they pack them in barrels; and this work is done very precisely. In Norway no sprinkling with salt, as a rule, is used before the herrings are gibbed or packed in barrels, but instead thereof they have to use more salt in packing than the Dutch and Scotch. The sprinkling of herring with salt as soon as they are landed or brought on board of the vessels is considered also to improve the flavour of them very much," (page 56).

"*Packing Herring.*

"In packing the herring in barrels it is recommendable not to pack them too tight before they have shrunk in the salt, and also to pack herring of the same size and quality right through the whole barrel. The packing is performed differently among different nations. In Norway the herrings are packed slantways on their back, while the Scotch and Hollanders pack them fully on their back. By this last mode (which no doubt is the best) the herring get a more round and thick appearance in the back; and it has also this advantage, that the pickle has got a better chance to get in and saturate through the abdominal cavity of the gutted herring. After the herring has shrunk in the salt the barrels are filled up again, and put away, but care is taken that the herring is not packed too hard. As long as the barrels are left to remain still there is no need of hard packing, but when they are to be shipped it is recommendable to repack the herring so tight that they do not move about, even if the barrels are handled ever so roughly, so that the receiver may be exempted from filling the barrels again after they have reached their place of destination. (Pages 56 and 57.)

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"*The Norwegian Cure of Herring.*

"As formerly stated, the largest quantity of herring in Norway is caught in the fjords by seines, and kept barred until what food the herring may contain is worked out in the natural way before they are taken up, dressed and salted. As a rule, the herring are salted in the vicinity of the places where they are caught, so that they can be put in salt almost alive, which is of the utmost importance in order to obtain a good article. In this way they have an advantage over the Scotch, who have to go far off the coast for their herring, and cannot get them in salt before they reach the shore, which often takes a long time. They have an advantage over the Dutch, because although they salt their herring on board of their vessels soon after they are caught, still they may have been dead several hours in the nets before they are hauled on board, and at all events none of the herring taken in drift-nets or other nets can be deprived fully of the injurious food they may contain as they can when barred in a seine. When brought to the shore or salting places from the seine the herrings are gibbed in this way—that a triangular piece of the throat, large enough to admit the heart and the pectoral fins to be removed, is cut out by the means of scissors made for that purpose, or by a small knife (some also use the fingers). This cut should be made deep enough to divide the large blood-veins situated close to the neck-bone, in order to remove the blood it contains. Sometimes also the gills are removed, especially on the full herring caught in the spring. (Page 59.)

"*Salting and Packing.*

"Generally a large enough crew is employed to admit the gibbing and the salting to take place at the one time. On account of the herring caught in seines being always mixed every gibber has got placed before him or her so many barrels or tubs as the herring are to be sorted in (from three to five); and according as they are gibbed every herring is also at the same time, by the gibber, sorted and placed in the various barrels or tubs to which the belong. The salter then takes the herring and packs them in new barrels, which lately have been soaked in sea-water, slantways on their back, with ¼ barrel of St. Ybes salt to 1 barrel of herring. The herring are packed loosely, one lays across the other the whole barrel through. The uppermost layers are packed sometimes slantwise, back up. Some packers put from 1½ to 2 gallons of pickle (made of ¼ brl. of salt to 1 brl. sea-water) on the herring soon after it is salted, and head up the barrels immediately. Others again let the barrels remain unheaded for one day before they fill them with pickle. Before the barrels are headed up a layer or two of herring are generally put into the barrels, in order to fill up the empty room caused by the shrinking of the herrings. By putting the pickle on the herring soon after they are packed the salt dissolves

quicker and saturates the herring more speedily, so that the contents of the stomach (provided the food is liberated) hardly has got any injurious effects upon the durability of the herring. After the barrels are headed up they are broached in the head and blown into by means of a brass pipe containing a valve, which is put down in the hole, and if found tight the hole is plugged up as soon as the air has escaped; if not, they are made tight in the places where they are leaky, and blown over again before they are stowed down on board the vessels. (Pages 59 and 60.)

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"*Branding—Its Value.*

"The system of culling, along with the official Crown mark on all exported herring barrels, has contributed more to the good reputation the Scotch herrings have gained in the continental markets than many may imagine.

"The dealers, on reception of Scotch herring with the Crown brand, are satisfied that the barrels really contain what they are branded for, in regard to quality and weight; and this has given them such confidence in the Scotch herring that these are received and approved of without even being opened; while the Norwegian herring barrels, since the official branding was abolished in 1851, must be opened and re-packed before the recipient can sell them, which often causes a good deal of inconvenience. (Page 63.)

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"*Consumers' Tastes to be Consulted.*

"It is an important point to cure the herring according to the consumers' taste, and not according to one's own, and to put them up in packages suitable for the different markets. Most of the continental people in Europe hold the opinion that the original pickle (blood-pickle called) gives the herring a nice flavour; and it is also held that the Dutch herrings are superior to any other because they are salted on board immediately after being caught, and the motion of the vessel has a beneficial influence upon the pickle and the herring. The Dutch believe much in the original pickle; and when this gets short, they even make pickle of the fresh offal after gibbing or gutting, instead of making pickle of clean salt and water. A good pickle should have a mild and sweet taste. If the pickle commences to get a disagreeable taste it is a sign that the herring has not been salted satisfactorily, and that the herring will spoil within a short time. In such cases it is recommendable to do away with the bad pickle, if the herring still is good, and supply the barrels with new pickle, made of clean salt and water.

"*How the Americans like their Herrings.*

"The European herring are mostly consumed among the continental people in Europe and the European population of America. These people seldom cook their herring, but eat them in the pickled state, after being soaked in fresh water, or pack them up into salad, or in pickle, in various ways, made of vinegar and spices. For this reason they do not care for a herring which is over-salted and hard in the flesh, or deprived of its flavour by too much salt, nor do they care for too large herring with coarse flesh, nor for lean herring; but prefer a middle sized one, with rich, fine and tender flesh, salted as mild as possible. They appreciate a herring of such a quality and so cured that it almost melts away in their mouths when it is eaten. The Dutch reckon they use in all one barrel of Lisbon salt to five barrels of herring in the hot season, and one barrel of salt to six barrels of herring in the colder seasons of the year.

"*A short view of the European Herring Business in the United States of America.*

"Of the European herring the Dutch cure has gained the widest markets in the States. The export of herring to the United States from Holland has increased

largely of late years, and at the same time also the demand for the best and finest qualities, which has become an universal article of food among a large number of the inhabitants. (Page 67.)

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" Season for Herrings in the United States.

"The first Dutch matties arrive in the States in the month of June—'Voll' herring arrive in the latter part of July, but the great demand for and sale of herring commences about the first of September and continues until the middle of November. From this time and until the month of February only a small business is done in herring in the States. The season for demand and sale open again about the first of February and continues to the middle of April. The stock of herrings is as a rule disposed of before the hot weather sets in. It is of no use to keep herring in stock the summer over, in the States, or to send old herring there, because these cannot be sold, and will only bring the shippers heavy loss. The people who consume European herrings want to get a fresh and newly-cured article." (Page 68.)

" Prices in the United States.

"The prices on Dutch as well as other herrings vary often, and like other articles are regulated by the supply and the demand. Sometimes kegs which contain only milt-herring will fetch from 15 to 20 cents more than kegs which contain milt and roe herring mixed. Certain brands of selected superior herring, packed by careful shippers, also fetch higher prices than the common packing. The average prices for the kegs of Dutch herring are from 40c. to 70c. and $1.10 ; and by the barrel from $9 to $10, according to quality and packing." (Page 69.)

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" Scotch Herrings in the States.

"The import of Scotch herrings to the United States is yet limited, but a few thousand barrels have been imported and sold at favourable prices ; and as the Scotch are working hard to get their herrings introduced into the American markets, no doubt by continued shipping of the finest and best cured herring they, after a time, will gain markets and increase their export. A Scotch barrel of herring contains about 250 pounds of fish, exclusive of pickle, and from 700 to 800 large herring with milt and roe. I have been informed that Scotch Crown full herring has been sold in New York at $9 and $10 per barrel, according to quality and packing." (Page 70.)

Comparison of Inspection Laws as Affecting Fish and Fish Oil.

1873.	1874.	*Revised Statutes, 1886.—Text of Existing Laws.*
Synopsis of Act 36, Vic., cap. 49.	*Synopsis of Act 37 Vic., cap. 45.*	
Sec. 59. Inspector to provide himself with proper branding irons and to know that his deputies are also so provided.	Sec. 61 requires that every inspector shall provide himself with proper branding irons or stencil plates for the purpose of branding such packages of fish as he may inspect, and that it shall be his duty to see that each of his deputies are duly provided with the same.	71. The expression " fish-oils," in the following provisions respecting fish and oils, includes whale, seal, porpoise, cod, herring, sturgeon, siskawitz and all other kinds of oils derived from fishes or marine animals. 37 V., c. 45, s. 67, *part.*
Sec. 60. Inspecting, culling, classifying, etc., to be done in presence and sight of inspecting officer.	Sec. 62 provides that inspecting, culling, classifying, &c., of any fish or fish-oil shall be done in the immediate presence and sight of an inspector or deputy.	72. Every inspector shall provide himself with proper branding irons, or stencil plates, for the purpose of branding or marking such casks, barrels and boxes as are by him inspected pursuant to this Act ; and every inspector shall see that all the deputy inspectors under him are duly provided in this respect. 37 V., c. 45, s. 61.
Sec. 61. Duty of inspecting officer to see that all kind of split, whole, pickled or salted fish intended for packing and barreling and inspection are well struck with pickle and salt, and are free from taint, rust or damage, and that all fish or oil branded as merchantable shall be well and properly packed.	Sec. 63. It shall be the duty of the inspecting officer to see that all kinds of split, whole, pickled or salted fish intended for packing or barreling, and submitted to him for inspection, are well struck	73. The inspecting, culling, classing, weighing, packing and branding or marking of any fish or fish-oil shall be done in the immediate
Tierces, barrels or half-barrels to be made of sound, well-season-		

ed split or sawed staves, free from sap, planed on outside, and at least three-quarters of an inch in thickness. Staves for salmon and mackerel barrels shall be twenty-eight inches in length, and the heads between the chimes seventeen inches. For herring barrels staves shall be twenty-seven inches long, and the heads between the chimes sixteen inches. All casks to be hooped one-third of their whole length from each chime, with sound hoops of not less than one inch in width. Makers of all packages to brand their names near the bung staves —for not doing so, a penalty of twenty cents for each package is provided.

Sec. 62. Inspection of all pickled fish and fish-oil for market or exportation, and of all fish-oils, cod-fish, tongues or sounds cured for such purpose is compulsory, throughout the Dominion, where an inspector has been appointed, except in Manitoba and British Columbia, under penalty of forfeiture, and five dollars per package.

Sec. 63. Pickled fish, fish-oils, cod-fish tongues and sounds, shall be inspected in accordance with the Act, and all green cod-fish shall be inspected or culled, and a certificate of inspection stating quality and quantity thereof, so inspected, shall be granted by inspecting officer.

Sec. 64. Provision is made for the branding of the different qualities of salmon, mackerel, herrings, gaspereaux, alewives, smoked herrings, sea trout, lake and salmon trout, whitefish and green cod-fish.

Sub-sec. 9. All other fish not named, but belonging to denominations specified in this Act, shall be branded as such, and must be sound and well cured.

Sub-sec. 10. Small fish, usually packed whole with dry salt or pickle, shall be put in good casks of the size, etc., as required by the Act, shall be packed close edgeways, and the casks branded with the denominations of the fish, etc.

Sub-sec. 11. Rusty or sour fish shall be so branded.

Sub. sec. 12. No foul, tainted or mutilated fish, that marks of illegal capture may be concealed, shall pass inspection, and any deputy inspector may seize, and any magistrate confiscate such fish.

Sub-sec. 13. Fish known as pickled fish, cured in bulk, shall, in addition to other brands, be branded with the word "bulk."

Sub-sec. 14. Each package of fish shall contain fish of the same kind, properly packed in separate with pickle and salt, and are free from taint, rust or damage, and that all fish or fish-oil branded as merchantable shall be well and properly packed in substantial packages, except green codfish packed without pickle, which may be packed in barrels or packages, not tight.

Tierces, barrels, or half-barrels to be made of sound, well-seasoned split or sawed staves, free from sap, and in no case to be of hemlock. The heading to be of hardwood, pine, fir, or spruce, free from sap, planed on the outside, and at least three-quarters of an inch in thickness. Staves shall be $\frac{5}{8}$ of an inch in thickness. Staves for salmon barrels shall be twenty-nine inches in length and the heads between the chimes seventeen inches. Staves for barrels for herrings shall be twenty-seven inches in length, and heads between the chimes shall be sixteen inches, and the bung staves of all such barrels shall be of hardwood. All casks shall be hooped with not less than twelve sound, good hoops of not less than one inch in width on the large end for all tierces and barrels, and in no case to be of alder.

The makers of all tierces, barrels and half-barrels to brand the initials of their christian names and their whole surnames, and also the letters "S," "M" or "H," according as the package made be intended for salmon, mackerel or herring, at or near the bung stave. For not doing so a penalty of twenty cents for every package is provided. All empty barrels shall be subject to inspection and approval. Any of such packages that will not pass inspection are to be branded with the word "condemned," immediately after the maker's name.

Sec. 64. Inspection of all pickled fish for market or exportation, and of all fish-oils, codfish tongues or sounds, cured for such purpose, shall be compulsory througout the Dominion where an inspector has been appointed, except in Manitoba and British Columbia, under a penalty of not less than one dollar and not more than five dollars for each package.

Sec. 65. Pickled fish, fish-oils, codfish tongues and sounds, shall be inspected in accordance with Act, and all green codfish shall be inspected or culled, and a certificate of inspection stating quality and quantity thereof so inspected shall be granted by inspecting officer.

Sec. 66 provides for the branding of the different qualities of salmon, mackerel, herrings, gaspereaux, alewives, sea trout, lake presence and sight of an inspector or deputy inspector. 37 V., c. 45, s. 62.

74. The inspector or deputy inspector shall see that all kinds of split, whole, pickled or salted fish, intended for packing or barrelling, and submitted to him for inspection, have been well struck with pickle and salt, in the first instance, and preserved sweet, free from taint, rust, salt-burn, oil or damage of any kind; and all fish and fish oil intended for market or exportation, and branded or marked as inspected and merchantable, shall be well and properly packed in good, tight and substantial packages or casks, and in the case of fish with clean salt—except green codfish packed without pickle, which may be packed in barrels or packages which are not tight; and all other packages shall be made of the materials and in the manner following:—

(*a.*) Tierces, barrels and half barrels shall be made of sound, well seasoned split or sawed staves, free from sap, and in no case of hemlock, and the heading shall be of hardwood, pine, fir or spruce, free from sap, and planed on the outside, and shall be at least three-quarters of an inch in thickness; the staves shall be five-eights of an inch in thickness; staves for salmon and mackerel barrels shall be twenty-nine inches in length, and the heads between the chimes seventeen inches; staves for barrels for herring shall be twenty-seven inches in length, and the heads between the chimes shall be sixteen inches; and the bung staves of all such barrels shall be of hardwood; all casks shall be hooped with not less than fourteen sound, good hoops, of not less than five-eights of an inch at the small end for all tierces and barrels, and in no case to be of alder; the makers of all tierces, barrels and half barrels shall brand the initials of their christian names and their whole surnames, and also the letters S., M. or H., according as the package is intended for salmon, mackerel, or herring, at or near the bung staves, and in default of so doing shall incur a penalty of twenty cents for every package not so branded;

(*b.*) Barrels of the following dimensions may also be used for a special quality of fish, that is to say: the staves shall be twenty-eight inches long, the head seventeen inches between the chimes; the chimes shall be one and a-quarter inches, and the head three-fourths of an inch in thickness, and the bung stave shall be of hardwood: every such barrel shall be branded with the words "special size:"

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layers, and salted with good clean suitable salt, at discretion of inspecting officer, and, after the cask has been properly packed and branded, shall be filled with clean pickle strong enough to float a fish of the kind packed.

Sub-sec. 15. If an inspecting officer decides that a portion of the fish in a package only is sound he shall separate the sound from the unsound, and so brand them.

Sub-sec. 16. If, owing to a casualty, it becomes necessary to repack inspected fish, it shall be done by and in the presence of an inspecting officer.

Sub-sec. 17. Fish branded by a deputy inspector, which may prove unequal in quality or quantity to that indicated by the brand, may, by order of the inspector, be re-inspected, and if it should prove that such deficiency was the result of any neglect on the part of the deputy, the cost and charges of re-inspection may be recovered from such deputy.

Sub-sec. 18. Duly inspected and branded pickled fish and oils under the Act shall not be subject (except in cases already provided) to re-inspection within the Dominion.

Sub-sec. 19. The weight of all fish when packed shall be clear avoirdupois, exclusive of salt and pickle.

Sub-sec. 20. On the head or butt of each cask there shall be branded the description of fish in the package, the weight and quality, together with the inspecting officer's name, and date and place of inspection.

Sec. 65. The Boards of Examiners, and inspectors of fish and fish-oils, shall fix and have in charge the standard for fish-oils in Nova Scotia, New Brunswick, Quebec and Ontario respectively, and the same shall be classified and branded according to such standards.

Sec. 66. For the classification and fees *vide* Act. Any person causing his fish or oil to be inspected may employ at his own cost a cooper to assist the inspecting officer, in which case such officer shall not be allowed any charge for cooperage. The cooper so employed shall be guided solely by the inspector's directions.

Sec. 67. Fish and fish-oil may be inspected either at the place where they are packed or manufactured or at the place of sale within the Dominion.

Sec. 68. When fish are not inspected at place of packing the packer's name and quality of fish must be marked in paint on each package, and when inspected at

and salmon trout, whitefish and green codfish.

Sub-sec. 9. All other kinds of fish not named, but belonging to a denomination specified in this Act, shall be branded as such, and must be sound and well cured.

Sub-sec. 10. Small fish usually packed whole with dry salt or pickled shall be put in good casks of the size, &c., as required by this Act, and shall be packed close edgewise, and the casks branded with the denomination of the fish, &c.

Sub-sec. 11. Rusty or sour fish shall be so branded.

Sub-sec. 12. No foul, tainted or fish mutilated so that marks of illegal capture may be concealed shall pass inspection, and any deputy inspector may seize and any magistrate confiscate such fish.

Sub-sec. 13. Fish known as pickled fish cured in bulk shall, in addition to other marks, be branded with the word "bulk."

Sub-sec. 14. Each package of fish shall contain fish of the same kind, properly packed in separate layers and salted with good, clean, suitable salt, at discretion of inspecting officer, and, after cask has been properly packed and headed, shall be filled with clean pickle strong enough to float a fish of the kind packed.

Sub-sec. 15. If any inspecting officer decides that a portion of the fish in a package only is sound he shall separate the sound from the unsound, and so brand them.

Sub-sec. 16. If, owing to a causalty, it becomes necessary to re-pack inspected fish, it shall be done by and in the presence of an inspecting officer.

Sub-sec. 17. Fish branded by a deputy inspector which may prove unequal in quality or quantity to that indicated by the brand may, by order of the inspector, be re-inspected, and if it should prove that such deficiency was the result of any neglect on the part of the deputy, the cost and charges of re-inspection may be recovered from such deputy.

Sub-sec. 18. Duly inspected and branded pickled fish and oils under the Act shall not be subject (except in cases already provided) to re-inspection within the Dominion.

Sub-sec. 19. The weight of all fish when packed shall be clear avoirdupois, exclusive of salt and pickle.

Sub-sec. 20. On the head or butt of each cask there shall be branded the description of fish in the package, the weight and quality, together with the inspecting officer's name, and date and place of inspection.

2. Every inspector or deputy inspector who inspects, marks or brands any fish packed in barrels, tierces or other packages, which are not in accordance with the requirements of this Act, shall incur a penalty of one dollar for each such barrel, tierce or package inspected, branded or marked. 48-49 V., c. 66, s. 14.

75. All pickled and smoked fish cured for market or exportation, and all fish oils, codfish tongues and codfish sounds, shall be inspected, weighed or gauged, and branded or marked, only in accordance with this Act; and all green codfish, in boxes or packages, shall be inspected and culled, and a certificate of inspection for the latter, stating the quality and quantity thereof so inspected, and shipped on board any vessel, shall be granted by any inspector or deputy inspector. 37 V., c. 45, s. 65;—43 V., c. 20, s. 2.

76. The various kinds of fish to be inspected under this Act shall be branded or marked of the following denominations respectively:—

(1.) Salmon branded or marked "No. 1" shall consist of the largest or best and choicest kind, well split, having the blood well washed out before being salted, well cured, in the best condition, and in every respect free from taint, rust or damage of any kind;

(*a.*) Those branded or marked "No. 2" shall comprehend the best salmon that remain after the selection of the first quality, and shall be good, sound, well split and cured fish, in the best condition, and in every respect free from taint, rust or damage of any kind;

(*b.*) Those branded or marked "No. 3" shall consist of those that remain after the selection of the two first two qualities, but shall be good, sound fish, and in every respect free from taint, rust or damage of any kind;

(2.) Mackerel branded or marked "mess mackerel" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall be such as would have measured not less than fourteen inches from the extremity of the head to the crotch or fork of the tail, and shall have the heads and tails taken off;

(*a.*) Those branded or marked "Extra No. 1" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall measure not less than fourteen inches from the extremity

the place of sale ten packages of each hundred shall be emptied.

Sec. 69. When fish are inspected a bill of inspection shall be furnished by the inspecting officer, setting forth the particulars of such inspection.

Sec. 70. The Act is not to apply to fish landed at any port in the Dominion from United States fishing vessels for the purpose of re-shipment to the United States, unless inspection is desired by the owners. Provided always, that such fish, if so re-shipped, shall not be branded.

(For classification and fees *see* Act.)

Any person causing his fish or oil to be inspected may employ (at his own expense) a cooper to assist the inspecting officer, in which case such officer shall not be allowed any charge for cooperage. The cooper so employed shall be guided solely by the inspector's directions.

Sec. 69. Fish or fish-oil may be inspected either at the place where they are packed or manufactured, or at the place of sale within the Dominion.

Sec. 70. When fish are not inspected at the place of packing, the packer's name and quality of the fish must be marked in paint on each package, and when inspected at the place of sale ten packages of each hundred shall regulate the grade of the fish so submitted for inspection.

Sec. 71. When fish are inspected a bill of inspection shall be furnished by the inspecting officer, setting forth the particulars of such inspection.

Sec. 72. This Act is not to apply to fish landed at any port in the Dominion from United States fishing vessels for the purpose of re-shipment to United States, unless inspection is desired by the owners; provided always that such fish so re-shipped shall not be branded. In 1876 the above Act was amended as follows:—

1876.

Act 39 Vic., cap. 33.

Sec. 1 amends section 63 of Act 37 Vic., cap. 45, by striking out the words "one inch in width at the large end," and inserting in place thereof the words "five-eighths of an inch at the small end."

Sec. 2 substitutes for section 64 the following:—

The inspection of all pickled fish cured for market or exportation, and of all fish-oils, &c., shall, whenever such pickled fish or oils are removed beyond the limits of the inspection district in which they are pickled or packed, be compulsory in every Province of the Dominion except British Columbia and Manitoba, where an inspector is appointed by law, and if any such pickled fish, &c., be sold or removed for sale beyond the limit of such district without being inspected under this Act, the person so selling or removing the same shall incur a penalty of not less than one dollar and not more than five dollars for each and every package.

of the head to the crotch or fork of the tail:

(*b.*) Those branded or marked "No. 1" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall measure not less than thirteen inches from the extremity of the head to the crotch or fork of the tail;

(*c.*) Those branded or marked "No 2." shall comprehend the best mackerel that remain after the selection of the first qualities, and shall be properly split and washed, well cured, and in every respect free from taint, rust or damage of any kind, and shall be divided into two qualities, those thirteen inches and upwards not sufficiently fat to make No. 1 being branded No. 2 large, and those from eleven inches up to thirteen inches being branded No. 2;

(*d.*) Those branded or marked "large No. 3" shall consist of good, sound mackerel, properly washed, well cured, and free from taint, rust or damage of any kind, and shall measure not less than thirteen inches from the extremity of the head to the crotch or fork of the tail;

(*e.*) Those branded or marked "No. 3" shall consist of good, sound mackerel, properly washed, well cured and free from taint, rust or damage of any kind, and shall measure eleven inches and upwards from the extremity of the head to the crotch of the tail;

(*f.*) All mackerel under eleven inches in length, of good, sound quality, and free from taint, rust or damage of any kind, shall be branded or marked with the words "small spring" or "small fall" in the place of a number;

(*g.*) All short, sunburnt or ragged mackerel, not otherwise defective, of whatever class, shall be branded or marked "No. 4;"

All spring mackerel shall be packed in coarse or ground West India salt.

(3.) Herrings, branded or marked "No. 1 Extra," shall be thirteen inches and upwards in length, and fat, and shall be well struck with salt, thoroughly cured and cleaned, and bright in colour.

(*a*). Those branded or marked "No. 1" shall be from ten to thirteen inches in length, well struck with salt, thoroughly cured and cleaned, and bright in colour;

(*b.*) Those branded or marked "No. 2" shall be from eight to ten inches in length, and shall comprehend the best herrings that remain after the selection of quality No. 1;

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Sec. 3 amends sub-section 4 of section 66, by adding the following words to the first paragraph:—

And every such box of smoked herrings shall contain at least twenty pounds of fish; and half boxes shall be twenty-two inches long, four inches deep and eight inches wide, and to contain not less than ten pounds of fish.

Sec. 4 amends sub-section 8 of section 66, as follows:—

Every barrel of pickled codfish shall contain two hundred pounds of fish, and every half barrel one hundred pounds of fish.

(*c.*) Herrings under eight inches in length shall be branded or marked "No. 3," with the word "small" in addition to the other brands or marks;

(*d.*) All ripped herrings shall be branded or marked with the word "split," in addition to other brands or marks;

(*e.*) All gibbed herrings shall be branded or marked with the word "round" in addition to other brands or marks;

(*f.*) All herrings that are not gibbed or ripped shall be branded or marked with the word "gross" in addition to other brands or marks;

(*g.*) All spring-caught herrings shall be branded or marked with the word "spring" in addition to other brands or marks.

The above shall be well cleansed and cured, and in every respect free from rust, taint or damage;

All spring and fall herrings shall be packed in coarse or ground West India salt;

Herrings that are caught at the Magdalen Islands, Baie des Chaleurs, Labrador or Newfoundland, and brought into port in Canada in bulk and packed in Canada, shall be branded or marked "Magdalen Islands," "Baie des Chaleurs," "Labrador," or "Newfoundland," respectively, in addition to other brands or marks;

(4.) Smoked herrings branded or marked "No. 1" shall comprehend the best and fattest fish; and those branded or marked "No. 2" shall consist of the poorer, smaller and inferior fish;

(*a.*) Both of these qualities shall be well smoked, free from taint, and not burnt or scorched; and no red or smoked herrings shall be so branded or marked unless they are well and sufficiently saved and cured and carefully packed in good and substantial barrels or half-barrels;

(*b.*) If smoked herrings are packed in kegs or boxes, the same shall be of well-seasoned boards the sides, top and bottom of not less than half an inch in thickness, and the ends at least three-quarters of an inch thick; the inside measurement of each box shall be eighteen inches long, nine inches broad, and eight inches deep, the joints well nailed, and the tops or covers smoothed;

And every such box of smoked herrings shall contain at least twenty pounds of fish; half boxes shall be twenty-two inches long, four inches deep and eight inches wide, and shall contain not less than ten pounds of fish;

(*c.*) Tainted, burnt, scorched and badly smoked herrings shall be considered "refuse," and may be

branded or marked as such without any other character.

(5.) Gasperaux or alewives, branded or marked "No. 1," shall consist of the largest and best fish, measuring nine inches and upwards, well struck with salt, thoroughly cured and cleaned, and bright in colour;

Those branded or marked "No. 2" shall be from seven to nine inches in length, and shall be the best that remain after the selection of quality No. 1;

Those under seven inches in length shall be branded or marked "No. 3," with the word "small" in addition to the other marks or brands;

All gaspereaux and alewives shall be packed in coarse or ground West India salt;

(6.) Sea trout branded or marked "No. 1" shall consist of the largest, best and fattest kind, well split, and in every respect free from taint, rust or damage of any kind;

(*a.*) Those branded or marked 'No. 2" shall comprehend the best trout that remain after the selection of the first quality, and shall be good, sound fish, free from taint, rust or damage of any kind;

(7.) Lake and salmon trout, branded or marked "No. 1 lake," shall consist of the largest and fattest fish, and be free from taint, rust or damage;

(*a.*) Those branded or marked "No. 2 lake" shall consist of the next best fish, free from taint, rust or damage;

(8.) Whitefish branded or marked "No. 1" shall consist of the largest and fattest kind, cured in good condition, and in every respect free from taint, rust or damage;

(*a.*) "No. 2" shall consist of those that remain after the selection of the first quality, and be free from taint, rust or damage;

(9.) Green codfish in barrels, with or without pickle, classed "No. 1, large," shall consist of the best and fattest fish, well split and cleansed, well cured, in first-rate condition, and in every respect free from taint, salt-burn, rust or damage of any kind, and shall measure twenty inches and upwards to the crotch of the tail;

(*a.*) Those classed "No. 1" shall consist of the best and fattest fish remaining after the selection of quality No. 1, large, well split and cleansed, well cured, in first-rate condition, and in every respect free from taint, salt-burn, rust or damage of any kind, and shall measure from sixteen to twenty inches to the crotch of the tail;

(*b.*) Those classed "No. 2" shall consist of those remaining after selection of quality No. 1, and shall be sound, well cured fish, and free from taint, salt-burn, rust or damage of any kind;

(*c.*) Every barrel of pickled codfish shall contain two hundred pounds of fish, and every half-barrel one hundred pounds of fish;

(10.) All other kinds of fish not enumerated herein, such as ling, hake, haddock, pollock, catfish, halibut, shad, bass and eels, codfish tongues and codfish sounds, in casks or barrels, shall be branded or marked as such, and shall be sound and well cured, free from taint, salt-burn, rust or damage of any kind;

(11.) Small fish, which are usually packed whole, with dry salt or pickle, shall be put into good casks of the size and materials required by this Act for the packing of split, pickled fish, and shall be packed close, edgeways in the cask, and properly salted with good, coarse, wholesome, dry salt, and the casks shall be filled full with the fish and salt, and no more salt shall be put with the fish than is necessary for their preservation; and the casks containing such whole fish shall be branded or marked with the denomination of the fish, and a like designation as is prescribed by this Act in respect of the qualities of other pickled fish;

(12.) All rusty or sour fish, of whatever kind or class, shall be branded or marked with the word "rusty" or "sour," as the case may be, in addition to the other brands or marks;

(13.) No foul or tainted fish, or fish mutilated for the purpose of concealing marks and appearances of illegal capture, or unsizeable fish, shall pass inspection;

(14.) Fish known as pickled fish, which are cured in bulk, if not inspected and certified as aforesaid, and afterwards packed in barrels, shall be branded or marked with the work "bulk" in addition to other brands or marks;

(15.) Each cask or package of fish shall contain fish of the same kind, or parts of the same kind and quality, properly packed in separate layers, and on every layer of fish so packed in the cask a sufficient quantity of good, clean, suitable salt, free from lime, shall be regularly placed, in the proportion of half a bushel for each barrel of fish, and in like proportion for other packages, at the discretion of an inspector or deputy inspector; and after the cask has been properly packed and headed it shall be filled with clean pickle, strong enough to float a fish of the kind so packed;

(16.) If it appears to any inspector or deputy inspector that a portion of the fish inspected by him is sound, and another portion unsound, he shall separate the sound from the unsound, re-pack the sound fish, and brand or mark the same according to its quality; and such portion

as the inspector judges incapable of preservation he shall condemn as bad, and mark "refuse," in addition to other marks;

(17.) If any casualty renders it necessary to re-pack inspected fish, it shall, in all cases, be done by and in the presence of an inspector or deputy inspector; and any other person attempting to re-pack or brand or mark the same shall incur a penalty not exceeding twenty dollars for every such offence;

(18.) When any fish, branded or marked by a deputy inspector, proves unequal in quantity or quality to that which is indicated by the brand or mark, or deficient in any way in the requisites prescribed by this Act, the inspector may cause the same to be re-inspected; and if it appears that the defect arose from the condition of the fish, or the bad quality of the cask, or the bad packing or pickling of the fish at the time of the inspection, he may recover the cost and charges of such re-inspection from the deputy inspector who branded or marked the same;

(19.) Pickled fish, duly inspected, packed and branded or marked, and fish oils, inspected and branded or marked under this Act, at any place in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario, or British Columbia, shall not be subject to re-inspection within Canada, except in cases already provided for in this Act;

(20.) Each tierce shall contain three hundred pounds, and each half tierce one hundred and fifty pounds; each barrel shall contain two hundred pounds, and each half-barrel one hundred pounds; each quintal shall weigh one hundred pounds; each draft shall mean two hundred pounds; and each box of herrings shall contain twenty pounds at least; and in each case the weight shall be clear avoirdupois, exclusive of salt and pickle.

(21.) There shall be branded or marked on the head or butt of each cask of pickled or dry-salted fish, in plain, legible letters, after the same has been inspected, culled, classed, weighed and packed, in accordance with this Act, the description of the fish, the weight and quality contained in the package, the initials of the christian name or names, and the whole surname of the inspector or deputy inspector by whom the fish was inspected, and the name of the place where he acts as inspector, and the month and the year of inspection. 37 V., c. 45, s. 66, *part*;—39 V., c. 33, s. 3;—45 V., c. 25, s. 1;—47 V., c. 33, s. 5;—48-49 V., c. 66, s. 15.

77. Every inspector or deputy inspector shall seize, and any magistrate may confiscate to Her Majesty,

all fish found or exposed for sale which have been killed or captured during prohibited seasons or by unlawful means, and all fish at any time offered for sale or barter, or attempted to be exported, whilst in an unwholesome condition. 37 V., c. 45, s. 66, *part.*

78. The boards of examiners of inspectors of fish and fish-oils shall fix and have in charge the standard of fish-oils in Nova Scotia, New Brunswick, Quebec and Ontario, respectively; and the same shall be classified and branded or marked according to such standards as follows:—

(1.) Whale oil shall be free from adulteration of every kind, and shall be branded as such, with the class according to quality appointed by standard,—if No. 1, "pale;" if No. 2, "straw;" if No. 3, "brown;"

(2.) Seal oil shall be free from adulteration of every kind, and shall be branded as such, with the quality per standard,—if No. 1, "strictly pale;" if No. 2, "pale;" if No. 3, "straw;" if No. 4, "brown;" if No. 5, "dark brown;"

(3.) Porpoise oil shall be free from adulteration of every kind, and shall be branded as such, with the quality per standard—if No. 1, "pale;" if No. 2, "straw;" if No. 3, "brown;"

(4.) Cod oil shall be free from adulteration, and be branded as such—first quality, "A," second quality "B;"

(5.) Herring, hake, pollock and dog-fish oil, and all other oils, shall be branded as such—first quality, "A;" second quality, "B:"

2. An inspector or deputy inspector shall determine the gauge of each cask, and the outs thereof, and shall mark the same on the cask; and the barrels shall be in good order and condition, sound and staunch, and made of hard, wood; and if any cask or casks are found to contain water or other adulteration, the fact shall be scribed or branded by the inspector or deputy inspector on the cask:

3. Casks containing fish oils shall be scribed or branded with such quality, the month and the last two figures of the year when inspected, the initials of the christian name or names, and the entire surname of the inspector, and also the place of inspection, and the initial letters of the name of the Province in which it is inspected. 37 V., c. 45, s. 67.

79. Every inspector or deputy inspector who inspects and brands or marks any cask or package of pickled fish or pickled fish in bulk, or smoked fish or any fish oil, in accordance with the provisions of this Act, shall be entitled to fees at the following rates, which shall be paid

by the original owner or the person who employed him in the first instance, that is to say :—

(1.) For each tierce of salmon, salmon trout or sea trout, fifteen cents ;

(2.) For each half tierce of salmon, salmon trout or sea trout, ten cents ;

(3.) For each barrel of salmon, salmon trout or sea trout, fifteen cents ;

(4.) For each half barrel of salmon, salmon trout or sea trout, ten cents ;

(5.) For each barrel of mackerel, ten cents ;

(6.) For each half barrel of mackerel, five cents ;

(7.) For each barrel of herring, seven cents ;

(8.) For each half barrel of herring, four cents ;

(9.) For each barrel of shad, ten cents ;

(10.) For each half barrel of shad, seven cents ;

(11.) For each barrel of whitefish, ten cents ;

(12.) For each half barrel of whitefish, seven cents ;

(13.) For each barrel of pickled codfish, hake, haddock or cat-fish, five cents ;

(14.) For each half barrel of the same, three cents ;

(15.) For each quarter barrel or kit of pickled fish, one and one-half cent ;

(16.) For each barrel of dry-salted codfish, hake, haddock, catfish, ling or pollock, five cents ;

(17.) For each half barrel of the same, three cents ;

(18.) For each barrel of bass, ten cents ;

(19.) For each half barrel of bass, seven cents ;

(20.) For each box of smoked herrings, one cent ;

(21.) For each half box of smoked herrings, one-half cent ;

(22.) For each quarter box of smoked herrings, one-quarter cent ;

(23.) For each barrel of cod tongues, cod sounds, halibut or eels, ten cents ;

(24.) For each half barrel of the same, seven cents ;

(25.) For inspecting, gauging and branding each puncheon of oil, twenty cents ;

(26.) For inspecting, gauging and branding each hogshead of oil, fifteen cents ;

(27.) For inspecting, gauging and branding each tierce of oil, twenty cents ;

(28.) For inspecting, gauging and branding each barrel of oil, fifteen cents ;

(29). For inspecting empty packages, one cent ;

2. The foregoing rates shall be calculated exclusive of salt, pickle,

cooperage, storage and labour employed in washing, rinsing, cleaning nailing, screwing or re-packing and pickling any fish;

3. Provided always, that any person causing his fish or fish-oil to be inspected, may employ, at his cost and charges, a cooper to attend upon and assist the inspector or deputy inspector in the performance of his duty,—in which case the inspector or deputy inspector shall not be allowed any charge for cooperage, —and the cooper so employed shall be governed and guided solely by the directions which he receives from the inspector or deputy inspector with respect to any fish or fish oil by him inspected, and not by any other person. 37 V., c. 45, s. 68;—44 V., c. 22, s. 1;—48-49 V., c. 66, s. 16.

80. Fish and fish oil may be inspected either at the place where they are packed or manufactured, or at the place of sale within Canada. 37 V., c. 45, s. 69.

81. Whenever fish are not inspected at the place of packing, the packer's name and the quality of the fish shall be marked in paint, on each barrel, half barrel or package; and when they are inspected at the place of sale the inspector shall empty out ten packages in each hundred of any lot submitted to him for inspection, and such inspection of ten packages out of every hundred shall regulate the grade of the fish so submitted for inspection. 37 V., c. 45, s. 70.

82. So soon as any fish are inspected, a bill of inspection shall be furnished by the inspector or deputy inspector, specifying the quality as ascertained by inspection, and whether each package contains the weight prescribed by this Act, with the name of the packer, and of the inspector at the place of packing. 37 V., c. 45, s. 71.

83. This Act shall not apply to fish landed at any port of Canada from United States fishing vessels for the purpose of re-shipment to the United States, unless the owners of such fish wish them to be inspected; but such fish, if so re-shipped without being inspected, shall not be branded or marked. 37 V., c. 45, s. 72.

APPENDIX No. 8.

QUESTIONS SUBMITTED BY DEPARTMENT OF FISHERIES AND REPLIES THERETO BY FISHERY OFFICERS REGARDING THE LOBSTER FISHING INDUSTRY IN THEIR RESPECTIVE DISTRICTS.

QUESTION No. 1.—*Please state number of canneries in your division, and owners' names?*

ANSWERS:

Fishery Officer Wakeham, Gulf Division, Province of Quebec	Thirty-three.
Inspector Hackett, Prince Edward Island	Ninety-eight.
Inspector Bertram, District No. 1 of Nova Scotia, comprising the Island of Cape Breton	Thirty-five.
Inspector Hockin, District No. 2, Nova Scotia, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysboro', Hants and Halifax	Seventy-four.
Inspector Kinney, District No. 3, Nova Scotia, comprising Counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's	Twenty-four.
Inspector Pratt, District No. 1, New Brunswick, comprising the County of Charlotte.	None.
Inspector Chapman, District No. 2, New Brunswick, comprising Counties of Restigonche, Gloucester, Northumberland, Kent and Westmoreland	Upwards of one hundred.

QUESTION No. 2.—*How many of these are owned by Canadians, and how many by United States citizens?*

ANSWERS:

Fishery Officer Wakeham.	Twenty-four by Canadians; nine by United States citizens.
Inspector Hackett	Eighty-seven by Canadians; eleven by United States citizens.
Inspector Bertram	Twenty-five owned by Canadians; nine by United States citizens, and one by an Italian.
Inspector Hockin	Forty-nine by Canadians; twenty-five by United States citizens.

ANSWERS:

Inspector Kinney.....	Sixteen by Canadians; eight by United States citizens.
Inspector Pratt.....	All have been in the past owned by Canadians.
Inspector Chapman.....	Three or four by United States citizens; rest by Canadians.

QUESTION No. 3.—*State probable number of lobster traps used in your division?*

ANSWERS:

Fishery Officer Wakeham..	43,900 in use; 50 per cent. of new traps each year to make good loss by storms, &c.
Inspector Hackett.....	95,725 traps used in 1890.
Inspector Bertram.....	About 42,150.,
Inspector Hockin.....	118,000.
Inspector Kinney.....	140,000.
Inspector Pratt.....	14,766 traps used in 1890.
Inspector Chapman.....	Upwards of 100,000.

QUESTION No. 4.—*Number of persons employed: (a) In fishing; (b) In canning.*

ANSWERS:

Fishery Officer Wakeham.	(*a*) 457 men and boys; (*b*) 692 men, women and boys.
Inspector Hackett.....	2,031—(*a*) 869; (*b*) 1,162.
Inspector Bertram.....	2,409.—(*a*) 1,679; (*b*) 730.
Inspector Hockin.....	3,779.—(*a*) 2,269; (*b*) 1,510.
Inspector Kinney.....	2,300.—(*a*) 1,700; (*b*) 600.
Inspector Pratt.....	320.—(*a*) 320; (*b*) canning not carried on.
Inspector Chapman.....	(*a*) 1,050; (*b*) 1,950—or about 3,000 in all.

QUESTION No. 5.—*How many of each class are Canadians, and how many are foreigners?*

ANSWERS:

Fishery Officer Wakeman.	In the United States factories (owned in) the foreman or manager is generally from the States, but all other hands employed are Canadians.

(The other Inspectors made no answer to this question.)

QUESTION No. 6.—*To what extent is the lobster fishery for export "alive" carried on in your division?*

ANSWERS:

Fishery Officer Wakeham.	Not at all.
Inspector Hackett.....	No lobsters fished for export *alive*.
Inspector Bertram.....	No export of *live* lobsters.
Inspector Hockin.....	A very small trade done from west division of Halifax County; none from other divisions.
Inspector Kinney.....	About one-third of the take is sold in United States *alive*.
Inspector Pratt.....	All lobsters taken are exported *alive*.
Inspector Chapman.....	Very little, if any at all.

QUESTION No. 7.—*At what earliest date does such fishing begin ?*

ANSWERS :

Fishery Officer Wakeham.	Depends on action of drift ice in spring. Magdalen Islands.—Earliest 10th May; latest 2nd June; average, about 20th May. Gaspé and Bay Chaleur—Earliest 1st May; latest 23rd May; average 10th May. Gulf division—About 15th May. At spots sheltered from easterly winds and drift ice fishing begins earlier than in exposed places. At Carleton, Maria and Pleasant Bays, and Grand Entry, traps not put out till seining for spring herring is over.
Inspector Hackett..	No fishing.
Inspector Bertram.....	Dates vary; generally about 15th or 20th May. though sometimes, owing to drift ice is as late as 10th June. At Isle Madame, 1st May to 15th. From St. Peter's Island east, 20th to 25th May.
Inspector Hockin.....	No reply.
Inspector Kinney.....	15th February.
Inspector Pratt	1st January—the commencement of the open season.
Inspector Chapman.....	Uusually, in Restigouche and Gloucester Counties from 1st to 10th May. In Northumberland and Kent Counties from 10th to 15th May, and in Westmoreland County from 15th to 20th May.

QUESTION No. 8.—*What is the quality and quantity of catch at that date, and when is the catch at its best ?*

ANSWERS :

Fishery Officer Wakeham.	The catch is at its best soon after the fishery begins —say 23rd May—and continues good until 15th June, best both as to quality and quantity. Up to this date but few small lobsters (under 9½ inches) are taken; after this date the run is smaller and the meat inferior in quality. As soon as traps can be put out safely lobsters are taken. It takes nearly a week to get all the traps out, and by this time the fishery is at its best.
Inspector Hackett.....	No catch.
Inspector Bertram.....	In Inverness County, quality good; catch best during month of June. In Cape Breton County, quality good, catch fair; catch at best about latter part of June. In Victoria County, quality good, but quantity proportionately less; catch at best from middle of June until close of season. In Richmond County, quality and quantity good; best catch from 1st May to last of June.
Inspector Hockin.....	Cumberland County,—Overseer Mills reports catch at its best in June; Overseer Murphy in May. Guysboro' County—Overseer McQuarrie reports catch at its best between 10th and 30th June. Halifax County—Overseer Fitzgerald reports fish larger in May, but more plentiful in June. Overseer Rowlings reports catch at its best in month of May; Overseer Leslie, from 1st May to 10th June.

ANSWERS :

Inspector Kinney.....	At its best 25th April.
Inspector Pratt.....	Lobsters are of the best quality at the opening of season, and in this district (No. 1, New Brunswick) the quantity taken then is about six tons per week. In the beginning of February it increases to ten tons per week, when it is at its best.
Inspector Chapman.....	Sometimes very good at the commencement, but the fishing is usually at its best from 1st to 20th June, though this varies in different localities. Last year there was a fine run, especially in Kent and Westmoreland Counties, and now especially in Westmoreland at the very last of the fishing. The fish seem to strike in north first, and gradually work down the Straits.

QUESTION No. 9.—*Give earliest dates of opening of factories in your division—say for the last three years.*

ANSWERS :

Fishery Officer Wakeham..	Magdalen Islands—1888, 25th May; 1889, 23rd May; 1890, 16th May. Mainland—1888, 18th May; 1889, 12th May; 1890, 9th May.
Inspector Hackett.....	From 1st to 15th May.
Inspector Bertram.....	Inverness County—1888, 27th May; 1889, 9th May; 1890, 17th May. Cape Breton County—15th May earliest date for last three years. Victoria County—1888, 25th May; 1889, 20th May; 1890, 3rd June. Richmond County—Seasons vary. Isle Madame first week in May; from St. Peter's Island east from 20th to 25th May.
Inspector Hockin.....	Straits of Northumberland—3rd May. South shore from Canso—15th April.
Inspector Kinney.....	Ordinarily about 15th April; exceptionally, 23rd March.
Inspector Pratt.....	The lobster factory formerly working in this district opened always about 1st May.
Inspector Chapman.....	1st May in extreme northern part of the division.

QUESTION No. 10.—*Give earliest date in spring at which it would be possible for canneries in your division to profitably commence operations.*

ANSWERS :

Fishery Officer Wakeham.	(*See* reply to Question No. 7). A fair average date would be 15th May.
Inspector Hackett.....	On south side from 5th to 10th May; On north side from 10th to 20th May.
Inspector Bertram.....	In Inverness County—The first week in May, provided the coast would be clear of ice, but drift ice generally prevents successful operations until about 15th May, and some years later.

ANSWERS:

In Cape Breton County—About second or third week in May; as drift ice on the coast until the middle of May, and some seasons later, prevents operations.
In Victoria County—From 20th to 25th May.
In Richmond County—On Isle Madame factories can commence first week in May.
Other districts from 20th to 25th May.

Inspector Hockin..... Straits of Northumberland,—1st May.
Canso West—15th April.

Inspector Kinney..... 20th April.

Inspector Pratt..... In the middle of February.

Inspector Chapman..... From 1st of May in northern to middle of May in southern portion of division.

QUESTION No. 11.—*Give (average) comparative number of lobsters caught daily at opening of the fishery and later on in the season.*

ANSWERS:

Fishery Officer Wakeham. At opening about 17,000; towards the close of the season about 6,000.

Inspector Hackett..... On whole coast about 400,000 daily for first twenty-days, fishing, and about 200,000 daily for last twenty-five days' fishing.

Inspector Bertram..... Inverness County—Impossible; seasons vary, but catch best generally in June.
Cape Breton County—This impossible; some factories begin after middle of May, others not till first week in June. Lobsters found plentiful from second week in June until middle of July. Seasons vary.
Victoria County—Impossible; several factories in this county did not operate this season.
Richmond districts—Catch varies in districts; average, about 4,000 lobsters daily each factory.

Inspector Hockin..... Overseer Wills, Cumberland County—At opening 8,000 to 10,000; later on 12,000 to 14,000.
Overseer Murphy, Cumberland County—At opening 9,000; later on 13,000.
Overseer Pritchard, Pictou County—At opening 40,000; later on 45,600.
Overseer Tory, Guysboro' County—At opening 4,000; later 9,000.
Overseer McQuarrie, Guysboro' County—About half catch before 10th May.
Overseer Leslie, Halifax County—At opening 20,000; later 70,000.

Inspector Kinney..... ..... Makes no reply to this question.

Inspector Pratt. 1,000 lobsters daily, increasing to 1,500 daily during February, and then decreasing during the remainder of open season.

Inspector Chapman..... This varies in different places in the division, as stated before.

QUESTION No. 12.—*State what length of season is necessary to enable canneries to run profitably.*

ANSWERS :

Fishery Officer Wakeham.	Under the conditions now in force, the fishery season is as short as it can be with any profit.
Inspector Hackett.....	About forty-five working days.
Inspector Bertram.....	For Counties of Inverness, Cape Breton, and Victoria—From opening of season until 31st July.
	For Isle Madame, Richmond County—From opening of season to 15th July ; from L'Ardoise east, from opening of season until 25th July.
Inspector Hockin.....	Overseer Wills, Cumberland Co.—To 1st August.
	Overseer Murphy, Cumberland Co.—Present time, or to 10th July.
	Overseer Pritchard, Pictou Co.—1st May to 15th July.
	Overseer Tory, Guysboro' Co.—To 15th July.
	Overseer McQuarrie, Guysboro' Co.—Not less than two months.
	Overseer Leslie, Halifax Co.—To 10th July, if fine weather.
	Overseer Rowlings, Halifax Co.—To 1st July, and also month of October.
	Overseer Fitzgerald, Halifax Co.—To 1st July and also from 1st September to 1st November.
Inspector Kinney.....	Sixty days under present regulations.
Inspector Pratt.....	As the season is at present, canneries could run profitably.
Inspector Chapman.	The canners and fishermen vary, from 1st May to 15th July.

QUESTION No. 13.—*State smallest and largest size of lobsters caught in your division during the season of* 1890, *as compared with previous years.*

ANSWERS :

Fishery officer Wakeham..	Opinion of Overseers and disinterested parties is, that for last three years there has been no falling off in size. In the Bay Chaleur the average size has increased since 1888. Largest lobsters taken off Anticosti (new ground) average two to 1lb tin ; biggest lobster taken weighed 14 lbs.
Inspector Hackett.....	Generally the smallest size in 1890 would be about 8 inches in length and the largest about 11 inches. As compared with three years ago, this would show an increase of about 1 inch on the smallest and largest sizes.
Inspector Bertram.....	In Inverness County the size for 1890 was about 10 per cent. above the average as compared with the three preceding years, *i.e.*, for the largest and smallest lobsters above an average for that period.
	In Cape Breton County—Smallest 9½ inches; largest 12 inches. Size and quality compare favourably with previous years.

ANSWERS:

In Victoria County—9½ inches smallest lobsters taken; 11 inches about largest. No noticeable change in size as compared with previous years.
In Richmond County—Smallest lobsters taken at factories 9½ inches; largest 12 inches.

Inspector Hockin. ..... Smallest 7 inches; largest 14 inches.

Inspector Kinney..... The average during 1890 seems to be larger than in other years.

Inspector Pratt..... None smaller than 9½ inches are taken from traps, although thousands are met with under that size, and run up to 15 and 16 inches in length; but run smaller than in past years.

Inspector Chapman..... The average was generally larger than in 1889, and considerably larger than in 1888.

QUESTION No. 14.—*Also state average size, as compared with previous years.*

ANSWERS:

Fishery Officer Wakeham. See his answer to Question 13.

Inspector Hackett..... The average size has increased about 1 inch last three years, being then about 7 inches for the smallest and ten for the largest; now about 8 and 11 inches, respectively.

Inspector Bertram..... In Inverness County—10 per cent. above average.
In Cape Breton County—Size same; average as former years.
In Victoria County—Apparently the same.
In Richmond County—No noticeable change in size of lobsters as compared with previous years.

Inspector Hockin..... Overseers Wills and Murphy, Cumberland County, report average size larger this year.
Overseer Pritchard, Pictou County—Better than last four years.
Overseer Tory, Guysboro' County, reports average size about the same.
Overseer McQuarrie, Guysboro' County, reports somewhat smaller.
Overseer Fitzgerald, Halifax County, reports average size about the same.

Inspector Kinney..... The average size during 1890 seems to be larger than in other years.

Inspector Pratt..... .. Average about 10 inches in length, and numbers and size decreasing annually.

Inspector Chapman..... A general improvement in past two years, especially in 1890.

QUESTION No. 15.—*How many lobsters did it take to fill a pound can in* 1890 *?*

ANSWERS:

Fishery Officer Wakeham. At Magdalens average was 4⅞; during first four weeks of season average 3½; towards close of season, this falls to 5. On the mainland average is better, say, for whole season, 4, and from Port Daniel west, say, average is about 3.

ANSWERS:

Inspector Hackett.....	On an average, about 6 lobsters. In some factories 4 lobsters filled a 1-pound can, while in others 7 were required.
Inspector Bertram.....	Inverness County—5 on an average. Some days as low as 4½ lobsters, taking the whole catch for the day, on an average, would fill a can. Other days it would take 5⅘ lobsters to fill a 1-pound can. Cape Breton County—Size, season and localities vary. Some districts, 4 to 1-pound can; other districts, from 5 to 6. Victoria County—Districts vary; average from 4 to 6 to fill a can. Richmond County,—From 4 to 6.
Inspector, Hockin.....	From 4½ to 5.
Inspector Kinney.....	About 4½ fish.
Inspector Pratt.....	Canning not carried on in this division.
Inspector Chapman.....	About 5 on an average.

QUESTION No. 16.—*Is the regulation fixing the minimum length at 9½ inches well observed; and are all lobsters under the size returned to the water?*

ANSWERS:

Fishery Officer Wakeham.	It is not well observed. Many lobsters are canned between 9 and 9½ inches; not many under 9 inches.
Inspector Hackett.....	The regulation fixing the minimum length is not very well observed, as the fishermen kill large numbers of short lobsters at the traps and throw them overboard.
Inspector Bertram.....	Inverness County—Fairly well. Lobsters under that size are, as far as practicable, returned to the water alive; all fines imposed were for having undersized lobsters. Cape Breton County—Yes; where factories are closely watched by officers. Victoria County—Yes; fairly well, as far as officers can ascertain, but factories require to be closely watched. Richmond County—Fairly well; as far as officers can ascertain, the majority of fishermen are disposed to return small lobsters to the water.
Inspector Hockin.....	Overseer Wills, Cumberland County, says: As far as he could observe—Yes. Overseer Murphy, Cumberland County, says: Are reported to secrete small ones from officers. Overseer Pritchard, Pictou County—Not by fishermen, unless compelled to. Overseer McPhie, Pictou County—Not well observed. Overseer Tory, Guysboro' County—I don't think it is; some are, if Inspector is expected. Overseer McQuarrie, Guysboro' County—No; avoided as much as possible. Overseer Leslie, Halifax County—No; a great many fishermen do not.

ANSWERS:

Overseer Rowlings, Halifax County—No; about one-eight returned to water.
Overseer Fitzgerald, Halifax County—No; if they can evade the law they will.

Inspector Kinney..... ..... No.
Inspector Pratt..... The regulation is well observed, and undersized lobsters are returned to the water.
Inspector Chapman ..... Fairly well; do not return all under 9½ inches, especially when officers are not on hand.

QUESTION No. 17.—*Are fishermen, as a rule, careful to liberate berried and soft-shell lobsters?*

ANSWERS:

Fishery Officer Wakeham. Soft-shelled lobsters are always returned to the water. Many fishermen have a practice of knocking off the berries by slapping the extended tail of the lobster smartly on the water. A man with the knack can do this very quickly and completely.
Inspector Hackett..... Not as a rule. Some are very particular in liberating them *alive*, while others, on account of the trouble they give in getting back into the traps and destroying the bait, kill them; but generally, if the Wardens are not energetic in visiting the factories, they are landed and canned.
Inspector Bertram..... Inverness County—No; required to be watched.
Cape Breton County—In some cases, but many fishermen will remove berries and sell to packers who cannot detect real condition of the fish.
Victoria County—No; many fishermen are known to take spawn lobsters and remove berries before bringing them to factory.
Richmond County—The majority of them are, but they require to be watched.
Inspector Hockin... ..... Overseer Wills, Cumberland County—Yes.
Overseer Murphy, Cumberland County—Fears not, but cannot say for certain.
Overseer Pritchard, Pictou County—No; they brush off the spawn.
Overseer McPhie, Pictou County—Yes.
Overseer Tory, Guysboro' County—No; the berries are brushed off.
Overseer McQuarrie, Guysboro' County—Yes, as a rule; many exceptions.
Overseer Leslie, Halifax County—Yes, generally. A great many taken by some.
Overseer Rowlings, Halifax County—No.
Overseer Fitzgerald, Halifax County—No.
Inspector Kinney..... Yes.
Inspector Pratt..... They are, as a rule, very careful.
Inspector Chapman..... As a general rule, I believe they are.

DLEC. QUESTION No. 18.—*What is the proportion in the catch of lobsters measuring*; (*a*) *Over* $9\frac{1}{2}$ *inches in length*,; (*b*) *Nine and a half inches in length*; (*c*) *Less than* $9\frac{1}{2}$ *inches in length ?*

ANSWERS:

Fishery Officer Wakeham.	On Magdalen Islands—(*a*) 60 per cent.; (*b*) 30 per cent.: (*c*) 10 per cent. On mainland—(*a*) 80 per cent.; (*b*) 10 per cent.; (*c*) 10 per cent.
Inspector Hackett.....	(*a*) 40 per cent.; (*b*) 45 per cent.; (*c*) 15 per cent. These figures may fluctuate, but after careful calculation I estimate them as being as near as possible to the correct proportions of the catch.
Inspector Bertram	Inverness County:—(*a*) 38 per cent.; (*b*) 40 per cent.; (*c*) 22 per cent. Cape Breton County:—(*a*) At districts of Gabarous, Forchu and L'Archeveque, 50 per cent.; (*b*) From Garbarous to Cow Bay, 40 per cent.; (*c*) From Cow Bay to Point Aconi, 35 per cent. Victoria County:—(*a*) 50 per cent.; (*b*) 20 per cent.; (*c*) 30 per cent. Richmond County:—(*a*) 45 per cent.; (*b*) 40 per cent.; (*c*) 15 per cent.
Inspector Hockin	(*a*) About 50 per cent.; (*b*) About 22 per cent.; (*c*) About 28 per cent.
Inspector Kinney.....	(*a*) Say 30 per cent.; (*b*) Say 30 per cent.; (*c*) Say 40 per cent.
Inspector Pratt.....	(*a*) $\frac{2}{3}$ of catch over $9\frac{1}{2}$ inches.; (*b*) $\frac{1}{3}$ of catch measures about the legal size.; (*c*) None are taken by our fishermen.
Inspector Chapman	It is impossible to answer this correctly, but I believe this season a large proportion were up to the standard.

QUESTION No. 19.—*What has been the range of prices for live lobsters and canning lobsters for* 1890, *and how do they compare with those of the past four seasons ?*

ANSWERS:

Fishery Officer Wakeham.	From $1 to $1.25 per 100.
Inspector Hackett.	Lobsters for canning purposes are generally purchased by the hundred—the fishermen receiving 25 cents per 100 for them delivered at the factory—the owners of the factory supplying boats, traps, bait and board. The price has been the same last four seasons.
Inspector Bertram	Inverness County—From 70 to 90 cents per hundred pounds of live lobsters, an increase of 20 per cent. as compared with the past four seasons. Cape Breton County—The rule in this county is: Packers furnish all gear to fishermen, and pay them from 75 cents to 90 cents per 100 lobsters. Average. about 15 cents over previous years. Victoria County—Prices vary; some packers pay more than others. Average, about 75 cents per hundred. Richmond County—From 80 cents to $1.25 per hundred. Higher rate than paid for last four years.

ANSWERS :

Inspector Hockin	Overseer Wills, Cumberland County—40 cents per 100 lbs., all found, for canning lobsters; prices a little higher.
	Overseer Murphy, Cumberland County, 45 cents per 100 lbs.; same as for several seasons.
	Overseer Pritchard, Pictou County—Better prices.
	Overseer McPhie, Pictou County—From $7 to $8 per case of four dozen.
	Overseer Tory, Guysboro' County—All must be alive; otherwise, not fit for canning. Prices from $1 to $1.30 per 100 lbs. Past four seasons from 60 cents to $1.
	Overseer McQuarrie, Guysboro' County—$1.30 per 100 lbs.; every year getting higher. Commenced at 40 cents per 100 lbs.; now $1.30.
	Overseer Leslie, Halifax County—From $1 to $2. A gradual incline in past four years.
	Overseer Rowlings, Halifax County—$1 to $1.25 per 100 lbs., being about 15 per cent. higher.
	Overseer Fitzgerald, Halifax County—$4 per 100 for live lobsters for export; $2 for 100 fish for canning—highest price for years.
Inspector Kinney.....	For live lobsters, a slightly better price than for past years. For canned lobsters, 20 per cent. improvement in price.
Inspector Pratt	Prices have greatly advanced on former years, averaging from 5 to 14 cents each for those over 10½ inches, while beneath that size to 9½ inches $1.50 per cwt. was the prevailing figure.
Inspector Chapman.....	Most all the canners employ their own men to fish, and do not buy from the fishermen. Prices for canned lobsters have been very much higher this season than usual, from 40 to 50 per cent. above the prices in 1887 and 1888.

QUESTION No. 20.—*How are lobster fishermen generally employed after the fishing season is over?*

ANSWERS.

Fishery Officer Wakeham.	Cod and mackerel fishing.
Inspector Hackett.	As a general rule they continue fishing mackerel, cod, &c., for the balance of the fishing season.
Inspector Bertram.	Inverness County—They prosecute other fishery, such as cod, hake, mackerel and herring; a small percentage attend to farming exclusively, after the fishery season is over.
	Cape Breton County—Some engage in cod, mackerel and herring fishery; others attend to farming.
	Victoria County—The majority prosecute other branches of the fishery, and some attend to farming.
	Richmond County—Engage in cod, herring and other fishing.

ANSWERS:

Inspector Hockin.....	Overseer Wills, Cumberland County, says: Anything they can get to do.
	Overseer Murphy, Cumberland County—As they return to Halifax, where they belong, I cannot tell.
	Overseer Pritchard, Pictou County—Some haking; some farming.
	Overseer Tory, Guysboro' County—At other fisheries.
	Overseer McQuarrie, Guysboro' County—Those who still have nets go about fishing mackerel, herring and cod; many go to the United States to work at canning other goods.
	Overseer Leslie, Halifax County—One half at cod and other fisheries; part at illegal lobster fishing; part at various occupations.
	Overseer Rowlings, Halifax County—Majority at other fisheries; some at mines and mills, and some continue to catch lobsters illegally.
	Overseer Fitzerald, Halifax County—At other fisheries.
Inspector Kinney.....	Many finish the season at net fishing; nearly all are small farmers.
Inspector Pratt.....	Hand-lining, trawling, weir, and net fishing.
Inspector Chapman	Variously—some at deep-sea fishing; some farming; others lumbering, milling, &c.

QUESTION No. 21.—*Is the supervision at present in force sufficient to ensure a fairly good observance of the law? If not, what suggestions can you make to attain that end?*

ANSWERS:

Fishery Officer Wakeham.	It is not: we want more Overseers constantly at work. Fishermen and canners who are strict in the cull complain that their neighbours take and use small lobsters when they are not watched.
	N.B.—It is the very general opinion at the Magdalen Islands that fishing in the lagoons should be stopped. The lobsters go in late into the lagoons, and since the shortening of the season to the 15th July lagoon-fishing has been greatly curtailed. These lagoons, where the water is shoal and warm, would seem to be the natural breeding grounds of the fish.
Inspector Hackett.....	The supervision at present in force ensures a fairly good observance of the law, but it could be improved by paying the Wardens a higher salary and compelling them to give more attention to their duties.
Inspector Bertram.....	Inverness County—Yes; the officers are vigilant, but more are required where factories have been established in out-of-the-way places.
	Cape Breton County—Certain districts require more supervision, as some factories are situated in out-of-the-way places, and require special officers to make daily visits.

	ANSWERS:
	Victoria County—Supervision sufficient, excepting district of north shore, where services of special officer are required.
	Richmond County—In some districts it is not sufficient. Would recommend special officer for certain factories during lobster-fishing season.
Inspector Hockin.....	Overseer Wills, Cumberland County, says: Yes.
	Overseer Murphy, Cumberland County—Should be a regulation trap, that would not retain small lobsters. Every cannery should pay a license and have its own ground laid off.
	Overseer Pritchard, Pictou County—Thinks not.
	Overseer McPhie, Pictou County, Recommends the placing of a Guardian at each factory during fishing season.
	Overseer Tory, Guysboro' County—Suggest all canneries should be licensed, and pay a fee for the same, and an officer to be stationed at each during the fishing season, and every case be branded by that officer before it leaves the cannery. All cases not so marked should be confiscated.
	Overseer McQuarrie, Guysboro' County—Thinks not. There should be a man at each factory to inspect fish as they are weighed out of boats when they are brought in. Every cannery to pay a license.
	Overseer Leslie, Halifax County—There are not enough officers appointed to guard against all illegal work.
	Overseer Rowlings, Halifax County—An Overseer, with the assistance of two good men, reliable and active, could have the law observed.
	Overseer Fitzgerald, Halifax County—As far as his district is concerned, it is.
Inspector Kinney.....	No.
Inspector Pratt.....	The supervision at present in force is sufficient to enforce the fishery laws.
Inspector Chapman	As good as can be had without a much larger expense, by placing a watchman in charge of each batch of canneries. This would require twenty-five or thirty special guardians for about ten weeks.

APPENDIX No. 9,

BEING AN APPENDIX TO MINUTE OF PRIVY COUNCIL, 22ND MAY, 1890, ON THE USE OF PURSE SEINES FOR THE CAPTURE OF MACKEREL.

Commander Lavoie, of the Government Fisheries Protection steamer "Lady Head," in his report for 1878, Supplement No. 4 to the Eleventh Annual Report of the Minister of Marine and Fisheries, 1878, p. 64, said:—

"It can easily be imagined what terrible havoc these 350 purse seines must make when engaged during two or three consecutive months in sweeping the same grounds. Nothing can escape them, and it is admitted by American fishermen themselves that a schooner making her catch with these fishing engines destroys an equal number of young herring and mackerel. These seines ought, in my opinion, to be forever banished from our waters, and their use especially prevented in the small bays where fish are wont to go for the purpose of depositing their eggs, and where they breed and grow." * * *

Dr. Wakeham, Commander of the Government Fisheries Protection steamer in the Lower River and Gulf, during the season of 1879, Supplement No. 2 to the Twelfth Annual Report of the Minister of Marine and Fisheries, 1879, p. 56, Appendix No. 3, said:—

"These seines, besides destroying wastefully an immense quantity of fish that is never saved, breaks up the schools and frightens the fish off the coast. Such, at all events, is the opinion of those best fitted to judge among our fishermen."

Fishery Inspector Duvar, for the Province of Prince Edward Island, for the year 1879, Supplement No. 2 to the Twelfth Annual Report of the Minister of Marine and Fisheries, 1879, p. 265, Appendix 15, said:—

"As regards the much vexed question of seining, it is historical that craft fitted out for fishing on the coasts of Massachusetts and Maine, as recently as 1863, used seines only for the purpose of taking 'porgies' for mackerel bait up to 1868, (or say 1870) when the practice was entered into on a large scale in American waters for the taking of mackerel. Up to that season, it is stated, vessels could each take 400 to 1,000 barrels per season with hook and line, but after seining had prevailed only up to 1873, 300 barrels per season would be all the hook-and-linesmen could take, while the seiners, even in the face of the diminishing supply, would capture full cargoes of large mackerel, besides each vessel netting a surplus of 1,000 barrels of small fish which they made no use of. The supply of large fish becoming scanty the American fleet tried their fortune with seines in the Canadian waters of 'the bay.' Here it was their object to take only such first quality fish as would fetch a high price in the United States' markets, the smaller fish not leaving any margin for profit. Now, the established fact that in ordinary fishing weather, each long seine may, and usually does, draw to the vessel's side 20 to 100 barrels of small herring and mackerel, over and above large ones, affords a basis on which to make calculation of the value of the fishery in which foreigners share, and of the destruction done to such fishery. Thus, 300 sail set their seines twice a day during, say, forty fishing days, or 16,000 times; and, with even the proverbial fisherman's luck, take at each cast of the seine from the waters to perish, make no use of and throw overboard, only 15 barrels of fish of smaller size than they require—this is putting it at the lowest conceivable figure—the result shows at least 240,000 barrels of fish at, say, $2 per barrel or $480,000 of injury done to the Gulf fishery in six weeks of actual time. I am aware there are persons capable of judging who may even consider the estimate far too low.

"Advices, supposed to be reliable, state that the average number of 250 schooners, or more, fitted out, most of them with seine boats and seines, from Gloucester and other American ports for the Canadian waters this spring. When they arrived they found the fish, although schooling freely, were of small size, which fact, it may be imagined, did not lessen the number of those under 11 inches in length that would be thrown overboard before a cargo of prime fish fit to bring a high price could be secured."

Supplement No. 2 to the Eightetenh Annual Report of the Minister of Marine and Fisheries, "Fisheries Statements," 1880, Appendix No. 3—Fishery Officer Wakeham's report for 1880:—

"There is no doubt that some years ago the mackerel was so much disturbed by the hosts of American schooners, with their destructive purse seines, that this fish was driven off the coast. During the past three years we have seen fewer American vessels, and now the mackerel are frequenting their old haunts in greater numbers. This season they were seen schooling in great quantities, all the way from Cape Chatte to Maguasha Head."

Mr. W. H. Venning, late Inspector of Fisheries for New Brunswick, in his report for 1886, Third Annual Report of the Department of Fisheries, 1886, Appendix No. 4, says:—

"There seems good grounds for the fears expressed by many of the old fishermen that the general use of purse seines in Bay of Chaleurs will be very destructive to the mackerel and herring fisheries. There is no doubt that the destruction of young mackerel along the American coast from the use of these seines is enormous, and the same destruction will probably follow their general use by our fishermen. Mr. B. P. Chadwick, of Bradford, Mass., who has been investigating this matter with great care for many years, thus writes Professor Baird, head of the United States' Fish Commission:

"'The present method of our fishermen in seining mackerel is such that while taking over 500,000 barrels of good, sizable fish, it causes a total destruction of over 1,000,000 barrels of young fish that have grown to one-third the usual size of fully matured fish. Could this number of fish be protected and caught when full grown the amount would be 3,000,000 barrels; and, at the present price of No. 1 mackerel ($15 per barrel), the amount of $45,000,000 worth of fish-food is no small item to our people. The hay crop of Maine, New Hampshire, Vermont and Massachusetts is 3,150,000 tons. The crop has a market value of $37,800,000. Now, if the farmers should destroy the hay crop annually the effect upon agriculture in these States would be disastrous; and yet the present method of seining mackerel destroys $45,000,000 worth of food-fish, and scarcely a voice is raised against it. Mackerel vessels carry from two to four seines each. I have known a single seine destroy 150 barrels of young mackerel in a day in the taking of 30 barrels of marketable fish. If one seine does injury to this amount in a single day, what must be the effect of using the seines of a mackerel fleet of 400 vessels for ninety days? The ocean is large and mackerel are prolific. The spawn of a single mackerel is nearly 500,000. Were it not for these two facts the end of mackerel fishing would soon be reached. As it is, the catch of No. 1 fish is small, there being scarcely any in the market, and these few selling at an exorbitant price. This condition is caused by the destruction of the young fish.'"

Inspector Bertram, Cape Breton, in his report for 1888, Fifth Annual Report of the Department of Fisheries, 1888, p. 49, says:

"Herring has proved the staple branch of the Cape Breton fisheries for the year 1888. With two or three minor exceptions, the herring fishery turned out remunerative to a degree that went far to compensate for the loss in other branches. Considering the value of herring as an article of profitable foreign commerce, and as a staple of food for home consumption, the wanton destruction of thousands of barrels of fish on the coasts of this island annually, thrown back in the sea by mackerel seiners, is a most serious matter in the economy of one of the most valuable natural resources of this country. This point will be found more fully referred to in this report under the heading of 'Destructive Methods of Fishing.'"

"Destructive Methods of Fishing and Waste of Fish-food."

This is a subject which requires serious consideration and prompt action in the application of prohibitive measures, if our present coast fisheries are to be saved from extinction. The two principal agencies in this work of destruction and waste are:—

Purse seining and trawling.

Against these two agencies of mischief our boat fishermen send up a united and universal protest. With fishermen of the United States and those of the Provinces, hand line fishing is now superseded by the use of seines and trawls. Both are destructive to fish, and the numbers now engaged in these methods of fishing are greatly in excess of all reasonable demands on the utmost possible fish-producing powers of this or any other coast of equal extent.

Purse seining is liable to the following objections:—

1. When a seine is thrown amongst a school of mackerel or other fish the school is broken up and scared, so that what escapes from outside the seine enclosure is scared and makes off to deep water for a refuge. This effectually destroys all chances of boat fishermen, who depend on hand-lines and ordinary nets, for a share of the broken schools.

2. When, for instance a seine is thrown for mackerel, it encloses the fish of every kind within its great area, and the aggregate quantity of these varieties are frequently much greater than that of the fish sought to be entrapped, including the small, valueless fish as well as the large.

3. When the seine is closed, and the work of taking out commences, all kinds of fish, large and small, good and bad, which are not of the grade sought, are thrown dead into the sea, thus polluting the bottom to an extent which repels living fish from its proximity. By this method thousands of barrels of herring and hundreds of quintals of cod, including bait and other fish, are destroyed, and boat fishermen, who are depending on them for a supply, are deprived of all participation in the catch.

4. The large quantities thus destroyed in the seining process is far beyond the powers of nature to sustain by reproduction, consequently, the fishing grounds are being rapidly depleted of their tenants.

Mr. J. H. Duvar, late Inspector of Fisheries for Prince Edward Island, in his report for 1888, Fifth Annual Report of the Department of Fisheries, 1888, Appendix No. 4, says:—

"As to the outcry against seining, which has this year been particularly loud, there may be something in it. The effect of 250 fast-sailing vessels chasing the fish all day long can well be imagined. Without going into the doctrine of heredity that continual prosecution developes a new instinct in animals, even in fish, it would almost seem as if the mackerel of the Gulf are growing more wary and shy. Little else can be expected where the fish schools, wherever found, are instantly broken up and the alarmed fish that escape the meshes make off in wild alarm for miles before they become quiet again. Among these fugitives the hook-and-line fishermen have a poor chance. But the evil is not remediable."

Mr. W. H. Venning, late Inspector of Fisheries for New Brunswick, in his report for 1888, Fifth Annual Report, Department of Fisheries, 1888, Appendix No. 3, said:—

"The failure recorded last year in the mackerel fishery has again occurred, and this year is more complete. In 1880 the catch was 19,650 barrels and 66,427 cans. In 1886 the catch was 17,868 barrels and 70,128 cans. In 1887 only 3,607 barrels and 44,278 cans were caught. After making all allowance for the alleged erratic and uncertain movements of mackerel, their pelagic wanderings and changing habitat, so great a decrease in a few years would indicate some general and hitherto unkown cause. In my opinion, based on many years observation, extensive reading and converse with old and experienced mackerel fishers, the causes are: 1st. The great destruction by purse seines of gravid parents and half-grown young fish; 2nd. The failing supply of food in Bay Chaleur and the Straits, consequent on the great destruc-

tion of smelts, frost fish and flounders in all the counties bordering these waters, where alone this fish is pursued by our fishermen. The myriads of young fry which formerly crowded all our estuaries and afforded the kinds of food that the mackerel seeks inshore, are no longer there. The waters are depleted of this food; consequently, the schools are no longer attracted to the in-shores. We see the same result in American waters, where purse seines have destroyed the gravid parents and immature young fish, and the porgies on which they feed. The scarcity of mackerel in American waters, continued with the continued demand for them, has led to the importation of large quantities from England, whence the future supply will probably come. While purse seines and bag-nets are allowed without restriction, I can see no reasonable hope of any improvement in the mackerel fishery. My present conviction is that there should be a close time to cover the spawning season, and that purse seines should be prohibited in Canadian waters. I have seen our salmon, shad, bass, alewives, oysters and lobsters all dwindling away for want of protective laws, and now the most valuable fish of all is being exterminated by the unrestricted use of destructive implements and the wanton waste of spawning fish."

Lieutenant A. R. Gordon, R.N., in his report for 1888, Fifth Annual Report, Department of Fisheries, 1888, Appendix "A," said:—

"The purse seine is a large fine mesh net, made out of tarred cotton twine. These nets were at first both clumsy and costly, but of late years not only has the net been made simply perfect, but the price has been put at such a figure that they have been adopted by Canadians more extensively, and entirely by United States fishermen. The basis of this fishery is a schooner carrying two seines and two seine boats; the seines are called the deep and shallow seines, the one being about 15 and the other about 10 fathoms deep.

"The relation between the reduced productiveness of our mackerel fishery and the adoption of the purse seine is one of the problems now most urgently presented for solution.

"In protecting a fishery the required conditions are: 1st. Proper means must be used for the capture of fish; 2nd. These means must only be used at a proper times, and the question then arises: is the purse seine a proper means of prosecuting the fishery, when used as it now is?

"In order to prevent the harassing of the schools of unspawned fish on the United States coast, a law was passed by Congress prohibiting the landing in the United states of mackerel caught with a purse seine before the 1st June in any year—thus in practice admitting that the use of the purse seine prior to that date was liable to injure the fishery. The condition of the fish which prevails on the United States coast up to 1st June is precisely that of the Gulf of St. Lawrence up to, say, 20th July, and therefore this date of prohibition, which may afford adequate protection to the fish on the United States coast, affords none to those on ours. But the point is none the less established that a Government, whose ruling principle of fishery legislation has been to interfere as little as possible with the liberty of the fishermen, has definitely concluded that the purse seine, used prior to the spawning season, is injurious to the fishery."

Again, having further reference to this subject, Lieutenant Gordon, R.N., in a special report in 1888, said:—

"It frequently happens that large numbers of undersized and unmerchantable fish are thus enclosed with a small percentage of good fish, so that in order to save the few the large numbers which might have grown into real value are uselessly and ruthlessly destroyed. In this way also quantities of herring have frequently been destroyed, as they are of no use to the fishermen.

"The most serious damage which the purse seine does to the fish is, however, not the capture of young and immature fish, but the killing of the parent fish by fishing at improper times, before spawning. If all the parent fish which come into the Gulf annually were allowed to spawn peacefully, the damage done to our fishery * * * would be greatly minimized. * * *

"I am myself of opinion that nearly half of the catch made by seines in the Gulf is that of unspawned fish, and this destruction of parent fish at improper times, together with the wholesale and useless destruction of immature fish is what has brought about the present depleted state of the mackerel fishery.

"That the use of the purse seine at improper times lies at the root of the evil is the belief of nine out of ten of those whom I have interviewed, and who have the means of judging; and this fishing, instead of being a steady working fishery, such as it used to be in the old hook-and-line days, has now become a sort of steeple chase and lottery business, in which there are few prizes and many blanks; and the feeling among these men was well expressed to me by the captain of one of our Nova Scotian vessels, who said: 'All I want, Sir, is one day at the fish with these prices; I ask no more.' The majority of those interested are in favour of the total abolition of the purse seine, but as long as some continue to use it others must, in self-defence, do the same. No remedy can be effectual which is limited in its operation to the three-mile limit, for mackerel spawn, like that of the codfish, floats on the surface, and the fish prior to spawning feed at all distances from the shore."

Inspector A. C. Bertram, in the Annual Report of the Department of Fisheries, 1889, Appendix No. 3, p. 50, says:—

"THE CHIEF AGENTS WHICH CAUSE SHORTAGE OF CATCH.

The first and principal of these causes, the fishermen are everywhere unanimous in agreeing upon—that is, the shore fisheries are being ruined by purse seine fishing, as well as by trawl or set-line fishing * * * *

"The consequence is, that the schools are broken, and such as escape the seines are scared away and lost to further capture by the boat fishermen. The mischief does not end here, for on being enclosed in seines at least 50 per cent. on an average of the fish are of kinds not wanted. This residue is taken out dead, thrown back into the water, and to this mass of dead, rotting matter are added the offals or cleanings from the fish retained, by which a large area of bottom is strewn, by aid of wind and tide, with tons upon tons of putrid matter, which repels all approaching schools for the remainder of the season. This process repeated upon the same grounds and within the same bays, year after year, destroys the fish beyond the powers of reproduction; and the condition of the waters, together with repeated scaring aways, leads the fish by degrees to abandon these places for other grounds. There is now no more firmly or accepted fact than that the fish shun filthy and polluted waters, just as graminivarous animals of land avoid filthy pastures whenever they can, by seeking out cleaner grounds. That fish will flee from tainted bait, in place of being attracted by it, is known to everyone, and is a great illustration of the aversion of fish to contact with putrid or even tainted matter. Out of a haul of 500 barrels by a purse seine, from 200 to 250 barrels will be rejected, and is thus lost to food and commerce, besides being thrown out dead, to pollute the waters and the bottom. This putrid mass will be largely increased by offals from the retained fish being thrown in after it * * * *."

Overseer Duncan Cameron, of St. Peter's, reports a decrease in very branch of deep-sea fishery excepting alewives. This falling off is not attributable to local causes or to a less vigorous prosecution of the industry, but to the fact that on the approch of fish inshore in the spring they are frightened away by American and Canadian seiners. This cause of the decrease in the fishery is also entertained by the most experienced fishermen of this district. A Regulation prohibiting the use of Purse seines and trawls inshore is much wanted * * *

Overseer Duncan McDonald, of Aspy Bay, says:—

"A great many mackerel were taken this year by hook-and-line, and it is a pity that this ancient and successful mode of fishing was not generally practised. It certainly would be more profitable for the local fisherman and far better for the fishery. Nothing is so calculated to destroy this fishery as the wholesale destruction

caused by seines. Had it not been for seining, the mackerel fishery would have been 50 per cent. better. The schools were broken up and the fish frightened away."

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Report of Lieut. A. R. Gordan, 1889. Report of the Department of Fisheries for the calendar year 1889. Part III, page 6.

THE MACKEREL FISHERY OF 1889.

The United States mackerel fleet which visited the Canadian waters during the season of 1889 consisted of sixty-two vessels, their catch being recorded in the table subjoined. In the cases when a vessel made two trips a double row of figures indimates the catch in each voyage:—

Name.	Port.	Catch.	Name.	Port.	Catch.
		Bbls.			Bbls.
Ambrose H. Knight	Gloucester	.....	John W. Campbell	Gloucester	35
A. R. Crittenden	do	250	John M. Plummer	Portland	.....
Augusta E. Herrick	Boston	.....	Lizzie M. Center	Gloucester	90
Alice C. Jordan	Gloucester	231	do	do	110
Agnes	do	50	Lizzie W. Hannum	do	40
Bluejacket	do	9	Leona	do	5
do	do	168	Mayflower	do	425
Belle Nauss	do	280	Marion Grimes	do	40
Belle Franklin	do	47	M. L. Wetherell	do	290
Chas. Levi Woodbury	do	7	Moro Castle	do	.....
do	do	190	Margie Smith	do	.....
David F. Law	do	14	Northern Eagle	do	.....
Davy Crockett	do	80	Orient	do	200
D. A. Wilson	do	51	Procyon	do	0
Edith Rowe	do	213	do	do	180
Ernest F. Norwood	do	34	Rushlight	do	50
Elsie M. Smith	Portland	5	Rapid Transit	do	0
Epes Tarr	Gloucester	50	do	do	180
Enola C	do	150	Rattler	do	50
Emma W. Brown	do	330	Robin Hood	do	50
Eastern Queen	do	105	S. F. Maker	do	270
Electra A. Eaton	do	272	Senator Saulsbury	do	110
Ellen Lincoln	do	.....	Senator Morgan	do	30
Flash	do	114	do	do	140
Flora Dilloway	do	80	Sterling	do	30
do	do	120	Star of the East	do	160
Geo. F. Edmonds	Portland	32	W. H. Foye	do	23
Governor Butler	Gloucester	140	W. H. Wellington	do	.....
G. P. Whitman	do	60	do	do	95
Herald of the Morning	do	.....	W. W. Rice	do	93
Henry Wilson	do	28	do	do	153
do	do	48	Willie Irving	do	30
Harry G. French	do	150	W. D. Daisley	do	113
Isaac A. Chapman	do	190	W. H. Oakes	do	98
J. S. McQuinn	do	95	Wm. M. Gaffney	do	.....
J. J. Clark	do	72			

Sixty-two schooners. Total take 6,775 bbls.

The following is the take of mackerel for the years 1888 and 1889, made by United States' fishing vessels off the Nova Scotian coast and in the Gulf of St. Lawrence:—

1888—83 vessels, take 10,418 bbls., averge 126 bbls. per vessel.
1889—62 do 6,755 do 109 do

So far as the New England fleet are concerned, both in the Gulf and on the Nova Scotian and New England coasts, the mackerel season has been an unprecedentedly

poor one, and the following table exhibits in a marked manner the continued decadence of the United States mackerel fishery. The returns not being yet available, the Canadian catch for 1889 is estimated, but that for the New England fleet is taken from the published returns of the Boston Fish Bureau, as stated in their circular of 13th December.

	1885.	1886.	1887.	1888.	1899.
Caught by U.S. vessel—Bbls.	330,000	80,000	78,000	40,000	17,794
do Canadians— do	148,400	152,292	131,653	65,777	65,000
Total product....	478,450	232,292	209,653	105,777	82,974

If from the above figures for United States vessels for 1888-89 we take the quantities quoted as being taken off the coasts of Canada, the remainder will represent the quantities obtained on the fishing grounds off the New England coasts. These remainders are: for 1888, 29,572 bbls., and for 1889 the minimum quantity of 11,219 bbls. Figures like these need no comment.

In Canada the fishing has remained about the same as last year, and the prospects are encouraging to this extent, that large quantities of small fish have been seen during the latter part of the season, which, if not destroyed in purse seines before reaching merchantable age, will go a long way towards restoring our fishery to its normal condition of late years, if not to its formal degree of plenteousness.

Our Canadian fishery shows to great advantage when compared with the mackerel fishery of the United States, and it is safe to say that, without any great increase in the means of capture, our Canadian catch has been fully up to, if not in excess of, that of last year.

The habits of the fish seem to have changed completely; they no longer herd in large schools, and play about on the surface as they feed, but small quantities of fish are found almost everywhere. At one time this year fish could be raised at any point between Miscou Island and the Magdalens, making in the whole unquestionably a vast mass of fish, but far short of the multitudes which formerly frequented the waters of the Gulf.

I cannot help thinking that the apparent change in the habits of the fish is largely due to their diminished numbers, which would naturally make them more timid. The change, however, is not without its advantage, as it tells largely in favour of Canadian methods of fishing, the success of the hook-and-line fishing and the boat fishing inshore being quite marked during the past season.

In my report on the operations of the year 1888 I went very fully into the condition and prospects of the Canadian mackerel fishery, and subsequent experience has only tended to confirm and strengthen the views expressed therein, viz., that the depletion of the mackerel fishery was largely due, not only to the use of improper means of capture, but to the use of those means at improper seasons.

The United States' Government, recognizing the importance of this fishery, has legislated very effectively to prohibit the use of the purse seine in their southern waters during the season when the mackerel are about to spawn, the law being that no mackerel caught in a purse seine between the first day of January and the first day of June in each year shall be permitted to be landed in the United States, thus using the machinery of the Customs Department to enforce a law for the protection of deep-sea fish on the high seas.

The United States' fishermen, recognizing the fact that this law is a necessity, if there is to be any future for their mackerel fishery, loyally adhere to its provisions.

Owing, however, to the geographic position of our Canadian fishing grounds, a season which will protect spawning fish on the New England coasts will not protect them on those of Nova Scotia, and the season within the St. Lawrence is later still.

I would strongly urge upon your notice the advisability of endeavouring to make an arrangement with the Government of the United States for the preservation of the mackerel fishery. The best method of protecting the fishery would be the absolute

prohibition of the use of the purse seine, and this prohibition could be made quite effectual by the passage of a law in Canada similar to that in force in the United States, but to extend over the whole year, and the extension of the United States term of prohibition to the whole twelve months. If this were done experimentally, say for a period of five years, the beneficial effects of the legislation would, I am sure, justify its enactment. But if is thought that this measure is too drastic, then let the following fishing areas and close times be agreed upon, and laws similar to that now in force in the United States be enacted for the protection of the areas:

First, the present close season, or prohibition of the purse seine, to extend to all the waters of the north-west Atlantic. Second, that no purse seine shall be used north of the parallel of Cape Sable until after the first day of July in each calendar year. Third, that no purse seine shall be used within the waters of the Gulf of St. Lawrence until after the first day of August in each calendar year—the boundaries of the Gulf of St. Lawrence for the purposes of this law to be the line joining Bear Island and Eddy Point, Straits of Canso, and the lines joining Money Point lighthouse, Cape Breton, with the lighthouse south end of St. Paul's Island, and thence to Cape Ray lighthouse, Newfoundland. If similar laws are passed by the United States and Canada for the protection of these areas, no costly or complicated police system will be necessary: the machinery of the Customs Department in each country can easily and effectually enforce the law.

The above-named limits may be described as (1) the New England mackerel grounds; (2) the Nova Scotia mackerel grounds; (3) the North Bay ground, the latter name being that applied by the mackerel fishermen to the whole Gulf of St. Lawrence. These separate limits are easily defined, and no difficulty could arise in administering the law on the ground of difficulty of defining a limit, and the divisions proposed are those which agree most nearly with the gradations of marine climate which govern the movements of these fish.

The destruction of these migratory fish before the spawning season must result in the depletion of the fishery, and if it is desired to prevent this destruction by wholesale, the abolition of the use of the purse seine in the above limits, and for the periods mentioned, is the minimum of protection that must be insisted on; for it is a fact, capable of demonstration quite simply, that spawning or gravid fish are taken on the Nova Scotian coast up till 1st July, and though the spawning season in the southern part of the Gulf is pretty well over by 20th July in an average year, we have in these waters so much fluctuation in marine climate that there is great variation in the period of spawning. I have therefore fixed on 1st August as the date of commencement of the purse seining, to allow for a late season and to cover the more northerly portions of these waters where the spawning season is later.

Many of the masters of United States fishing vessels admit that the unrestrained use of the purse seine has ruined the mackerel fishery, but some of them being part owners of vessels and gear are indisposed to support a measure, the passage of which would practically wipe out a portion of their capital for a time. In Canada the sum invested in these seines is comparatively small, and I do not think that there would be any real opposition from Canadians to the enactment of the proposed laws for the protection of the mackerel. In fact, I consider that continued comparative productiveness of the Canadian mackerel fishing grounds as compared with those on the New England coasts is largely due (1) to the protection afforded to fishermen, by securing the inshore fishing grounds from molestation and continual harassment by a large fleet of foreign fishermen, thus affording the fish an area in which to spawn comparatively undisturbed; and (2) to the fact that Canadian fishermen have not so extensively adopted the use of the purse seine as a means of capture.

One of the best arguments in favour of the abolition of the purse seine is that many of the most experienced fishermen are already discarding the use of it, and all are relegating it to a secondary place in their operations. In the past, the mackerel schooner stood off and on, with one, two, or even three men at the masthead, looking for fish, and when a school was sighted the seine boat was manned and the school surrounded; then, after the seine was pursed the schooner sailed up alongside the

boat. To-day the *modus operandi* is entirely changed. The vessel now carries many barrels of bait, herrings, porgies and clams; these are ground up in a mill and mixed with water to the consistency of thin porridge; the vessel still carries a man at the masthead, but instead of sailing to and fro, she is allowed to drift slowly over the surface of the sea and the toll bait is constantly thrown over, two or three men meanwhile have their lines over the side, and if the fish rise to the bait and are taken on the hooks, all hands immediately get their lines over, and if the fish show in any number, the bait is kept going over steadily, the seine boat is manned and the seine quietly swept round both vessel and fish, and when the net is pursed up those left on board run the head of the jib up, the vessel pays off and rides easily and harmlessly over the cork rope, the haul occasionally amounting to a few barrels; but all the fishermen seem to admit that after sweeping the seine they have to change their ground, whilst they might have continued hooking successfully for some time longer had they not made the haul of the seine.

This purse seine fishing is in one sense like prospecting for gold or boring for oil, it being purely a speculative business, in which there still certainly remain a few prizes, but in which there are very many blanks; but each crew looks forward to making a big haul, and not to the continuous work which the hook and line fishing imposes on the men. As an instance of the prizes made, one vessel, the "Emma W. Brown," of Gloucester, got one hundred and sixty barrels of sea-packed markerel at a single haul of her seine, which, at the extraordinary prices which have prevailed, would mean a take worth nearly four thousand dollars, or, say, upwards of one hundred dollars per man.

Another vessel, the "Mayflower," of Gloucester, made a somewhat similar haul, but these were the only two fortunate schooners in the whole fleet; yet the effect of these two hauls was to keep many of the fleet down on our coasts for some weeks later than they otherwise would have been.

One marked and of late years somewhat unusual feature of this season's fishing was the run of fine mackerel which struck in on the Nova Scotia coasts during the earlier half of November. These were exceptionally large and fine fish, and would, in some instances that come under my notice, run from 130 to 160 fish to the packed barrel. I estimate that about three thousand barrels were taken of this fall run; and as many of them were marketed fresh in ice, this run was worth nearly sixty thousand dollars to the fishermen. In some parts of the coast this lot of fish when netted were considerably damaged by squid, which actually eat the fish after they are meshed in the nets, never totally consuming a whole fish, but eating a piece out of one and then testing the flavour of a second, till in some instances quite a serious proportion of the fish were damaged.

The Canadian mackerel net fishery by boats from the shore, and the net fishery by small schooners, requires regulation. This subject will be dealt with more fully in another part of the report. Suffice it to say, that the two great points which it is desirable to attain are, first, the marking with registered marks all nets or other fishing buoys, and second, the absolute prohibition of day fishing by drift nets, say between the hours of 8 a.m. and 5 p.m.

In concluding these remarks on the mackerel fishery, I would state again that the additional experience which I have acquired only confirms my opinion as to the desirability, almost the necessity, of the prohibition, or at any rate the limitation, of the use of the purse seine.

To be really effectual, any arrangement must be of an International character; and I am of opinion that the majority of both Canadian and United States' fishermen would be willing to accept some such arrangement as that suggested, at any rate tentatively, for a period of five years, and they would readily admit that, whilst it might in the first instance be the occasion of loss to those of them who owned their seines and vessels, some such regulation of the fishing is most desirable.

PART II.

REPORT

ON THE

FISHERIES PROTECTION SERVICE

OF

CANADA.

1890.

PRINTED BY ORDER OF PARLIAMENT.

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1891.

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REPORT

ON THE

FISHERIES PROTECTION SERVICE

OF

CANADA.

1890.

By Lieutenant ANDREW R. GORDON, R.N.

TORONTO, 30th December, 1890.

The Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—I beg to report on the work of the Fisheries Protection Service under my command during the past season, as follows:—

The vessels forming the fleet were as shown in the table hereunder:—

Vessel.	Commanding Officer.	Date of Commission.	Date Paid Off.
The S. S. Acadia	Lieut. Gordon, R. N	June 20	November 4.
S. S. La Canadienne	Commr. Wakeham	do 14	do 12t
The S. S. Stanley	Capt. Finlayson	do 18	October 18.
The S. S. Dream	Capt. J. H. Pratt	January 1	December 31.
The Schr. Vigilant	Capt. Knowlton	May 28	do 15.
The Schr. Connaught	Capt. Kent	June 10	October 10.
The Schr. Critic	Capt. McKenzie	August 31	do 31.

The Customs steamer "Argus," stationed at Halifax, was also employed as occasion permitted in the Protection Service.

The S. S. "La Canadienne" was, as in former years, in the Labrador and Quebec districts, throughout the season, save that she took up the patrol station of the "Stanley" for a few days, while that ship was in port for fresh water and fuel.

The S. S. "Stanley" was at first stationed on the west end of Prince Edward Island and the New Brunswick shores up to the Bay of Chaleur, and afterwards, when the fishing fleet moved eastward to Cape Breton and the east end of Prince Edward Island, her headquarters were changed to Port Hood.

The S. S. "Dream" was employed in the Bay of Fundy and St. Mary's Bay for the protection of the herring and mackerel fisheries. The necessity for the strictest watchfulness on all parts of our coast was well exemplified on this station during the past season by the following incident. For a number of years past neither spring nor fall mackerel have been taken in the St. Mary's Bay nor the Bay of Fundy, but as will be seen by the report on the season's mackerel fishery, these fish appeared in considerable quantities, though of small size, in the bay during the past summer. No sooner was the report published by the press of the presence of mackerel in this region than a United States mackerel seiner appeared in the bay, but the prompt appearance of the "Dream" on the eastern side of the Bay of Fundy was the means of preventing any actual trespass by this vessel.

The "Acadia," and the schooners "Vigilant," "Connaught," and "Critic" were employed in the Gulf and on the Cape Breton and Nova Scotia shores in protecting the inshore fishery and in enforcing the various regulations established by the Department for the protection of the fisheries.

In speaking of the management of the vessels forming the fleet under my command, I may state that it is now regularly accepted as a marine police service, and the great difficulty we labour under is that just as the men are becoming accustomed to the necessary restraint of a wholesome discipline, and are becoming efficient in their work, they leave us, owing to the ships being paid off, and, with a few exceptions, we see no more of them. I think it would be posible to secure the desirable men year after year for a very small additional payment. If, for instance, able seamen in their first year's service with us get the wages we now pay, viz: $18 per month, then those in a second year producing a good discharge from one of our vessels might be allowed $19 and third and subsequent years a maximum of $20 firemen and coal passers might, in a similar way, be augmented for three years. The wages we now pay are occasionally below the rate of wages of the port of Halifax, and we have to accept inferior men, but if this annual increment is allowed I think we should secure enough of the old hands to leaven up those that are new to the work in a very short time.

The remarks I have offered as to the desirability of retaining the services of good men among the crews of the vessels tell with much greater force when we consider them as applied to the officers of our ships.

It is most desirable, in view of the prospective permanence of the Fisheries Protection Service, to retain the services of reliable and experienced officers, who have acquired a knowledge of the routine work of the service and have a personal acquaintance with many of the fishermen, both Canadians and those of the United States.

The work of policing the shore fisheries, by which I mean the actual work of enforcing the fishery laws for the regulation of the fisheries, has this year assumed an importance second only to that of patrolling the limit against incursions by foreign fishermen; and the endeavour, during the past season, to enforce the laws relating to the lobster and other fisheries, has engaged the attention of the fleet whenever the work for which it was specially commissioned permitted its doing so. The attention which I have given to this part of our duties has convinced me of the complete inability of the fishery wardens, as at present constituted, to enforce the laws for the regulation of the several fisheries, and I am firmly of opinion that before any really effective work can be looked for the whole system of fishery wardens must be changed. Fewer men, with larger salaries and larger districts, would even if they only devoted a portion of the year to the work, be more efficient than the present system; and until some such alteration is made in the system much of the time of our ships will of necessity be devoted to this work. For the ships to do this work effectually the commanders must be men who have a thorough knowledge of the coast and the location of the factories, trap sites, &c.—in fact, the knowledge gained within the service is what makes them valuable officers. And as an inducement for desirable men to remain in the service, I would recommend that steps be taken, either to employ them for a longer time each year or to make the salaries

allowed them increase somewhat with length of service; and if arrangements could be made with the Imperial Government to allow some of the masters and officers of our service to serve once, for the sake of instruction, in some of the small vessels in the West India squadron for a few months of the winter, the experience in the habits of discipline and customs of a naval service and the knowledge of drill which they would gain would fuliy recompense our Government for keeping them on pay during the period of their service on board of the naval vessel; and if, say, two or three officers each year were given a course of four or five months on board a man-of-war, we would soon see the benefit of it in the increased smartness and efficiency of our service.

I desire to acknowledge here the faithful and energetic manner in which the work of the force has been carried out by both officers and men, the masters of the various cruisers having, with one exception, displayed both zeal and discretion in the discharge of duties that are certainly monotonous, but which occasionally require the display of both tact and good sense for their effectual performance.

The only seizure made of a foreign fishing vessel during the season was that of the "Davy Crockett," of Gloucester, Nelson Cantelo, master, seized in Souris for fishing from dories within the three mile limit and held in bail for the sum of $2,500 pending the decision of the Admiralty Court. On the bail being given the vessel was released, and proceeded on her fishing voyage. The crew were allowed to remain on board their vessel during the time she was in custody, and as an instance of the good will and respect for law which characterizes all the proceedings on the part of the crews of the United States vessels, it is worthy of notice that the crew of the seized vessel assisted in navigating their vessel to Charlottetown, and on arrival there in dismantling her to such an extent as to render her safe in the custody of the constables placed in charge by the marshal of the Vice-Admiralty Court.

It is a fair evidence of the efficiency of the service that, with the exception of the vessel seized, no instance of trespass was reported to me throughout the season.

The Collector of Customs at Souris detained the schooner "Willie Irving," of Gloucester, for infraction of the Customs laws; but she was subsequently released by the Government and permitted to engage men to navigate her home, her own crew having mutinied and left her, declaring the vessel to be unseaworthy, though a survey held on the order of the United States Consul declared her seaworthy and fit for the work in which she was engaged.

Fishing Licenses for Foreign Fishing Vessels.

The period during which licenses were obtainable by United States fishing vessels under the so-called *Modus vivendi* expired on the 14th of February, 1890, and the Canadian Government, as an expression of good will, have, by authority of Parliament, continued the system up to the close of the current calendar year. This privilege has been largely taken advantage of, and the following is the list of vessels which have taken out licenses, together with the amounts paid by each.

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled: "An Act respecting Fishing Vessels of the United States of America" during the Year 1890.

Name of Vessels.	Port of Registry.	Tonnage	Port of Issue.	Fee.
				$ cts.
Annie C. Hall	Gloucester, Mass	84	Liverpool	126 00
A. M. Burnham	do	60	Pubnico	90 00
Amy Hanson	Boston, Mass	103	Yarmouth	154 50
A. T. Gifford	Gloucester, Mass	81	Canso	121 50
Abby F. Morine	do	77	do	115 50
Admiral	do	73	do	109 50
Alice L. Hawkes	do	60	Shelburne	90 00
Abbie M. Deering	do	96	Yarmouth	144 00
A. R. Crittenden	do	81	Souris	121 50
Anna H. Frye	do	64	do	96 00
Agnes E. Downs	do	81	do	121 50
Ada M. Hall	do	95	Canso	142 50
Bessie M. Wells	do	92	Halifax	138 00
Bertha May	do	75	North Sydney	112 50
Blanche	do	79	Liverpool	118 50
Bertha M. Miller	do	42	Shelburne	63 00
Carrie and Annie	Boston, Mass	90	Yarmouth	135 00
Carrie E. Parsons	Gloucester, Mass	80	Canso	120 00
Carrie W. Babson	do	86	Souris	129 00
Charles H. Boynton	do	71	Barrington	106 50
Carl Schurz	do	68	Port Hood	102 00
Charles Hashell	North Haven	62	Shelburne	93 00
Charles W. Parker	Gloucester, Mass	54	Yarmouth	81 00
Centennial	do	110	Canso	165 00
D. A. Wilson	Beverly	86	North Sydney	120 00
Dora A. Lawson	Gloucester, Mass	119	do	178 50
D. D. Winchester	do	79	Canso	118 50
Dido	do	77	Shelburne	115 50
David A. Osier	Mathinicus, Waldbore	24	do	36 00
Davy Crockett	Gloucester, Mass	81	Souris	151 50
Edward Grover	do	73	Port Mulgrave	109 50
Ellen Lincoln	Portland	92	Canso	138 00
Electa A. Eaton	Gloucester, Mass	73	do	109 50
Elsie M. Smith	do	106	Liverpool	159 00
Eliza B. Campbell	do	95	Souris	142 50
Emerald	do	40	Yarmouth	60 00
Emma E. Wetherell	Boston, Mass	109	do	163 50
Essex	Gloucester, Mass	111	Arichat	166 50
Edith L. Conley	Kennebunk	55	Shelburne	82 50
Ellen M. Adams	Gloucester, Mass	85	Canso	127 50
Fannie A. Sparling	do	81	Shelburne	121 50
Fannie W. Freeman	do	90	Liverpool	135 00
Frederic Gerring	do	67	Yarmouth, N.S	100 50
Flora Dilloway	do	76	Shelburne	114 00
Gertie May	Portland	97	Port Hawkesbury	145 50
Gardner W. Tarr	Gloucester, Mass	63	Digby, N.S	94 50
George W. Pierce	Portland	59	Canso	88 50
Gracie C. Young	Gloucester, Mass	83	Arichat	124 50
Gladstone	do	97	Canso	145 50
Gertie Evelyn	do	81	Arichat	121 50
Golden Hind	do	70	Canso	105 00
George S. Boutwell	do	63	Campobello	94 50
George B. McLelland	Portland	63	Liverpool	94 50
Grace L. Fears	Gloucester, Mass	84	Canso	126 00
Herbert M. Rogers	do	73	do	109 50
Howard Holbrook	do	92	North Sydney	138 00
Hustler	do	92	Yarmouth	138 00
Hattie E. Worcester	do	112	North Sydney	168 00
Henry Wilson	do	88	Canso	132 00
Horace B. Parker	do	93	Arichat	139 50
Henry L. Phillips	do	76	Port Mulgrave	114 00
Hattie Maud	Portland	86	Shelburne	129 00
Hattie L. Newman	Gloucester, Mass	93	Canso	139 50
Iolanthe	do	71	Liverpool	106 50
John W. Campbell	do	79	Arichat	118 50

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled: "An Act respecting Fishing Vessels of the United States of America" during the Year 1890.

Name of Vessel.	Port of Registry.	Tonnage	Port of Issue.	Fee.
				$ cts.
John A. Matheson	Provincetown	146	St. Peter's	219 00
J. H. Carey	Gloucester, Mass	95	Arichat	142 50
John D. Long	do	63	Shelburne	94 50
Knight Templar	do	69	Arichat	103 50
Kate and Ella	Bridgeport, Conn	17	Charlottetown	25 50
Lotta Belle	Provincetown	91	St. Peter's	136 50
Lillian A. Allen	Portland, Maine	106	North Sydney, C.B.	159 00
Laura Sayward	Gloucester, Mass	64	Canso, N.S	96 00
Laura Nelson	do	85	North Sydney, C.B.	127 50
Lizzie Griffin	do	100	Canso, N.S	150 00
Lizzie J. Greenleaf	do	88	do	132 00
Lizzie M. Stanwood	do	100	Arichat	150 00
Lizzie Smith	Provincetown	73	Port Hawkesbury	109 50
Lizzie W. Hannum	Gloucester, Mass	71	Port Mulgrave	106 50
Mist	do	91	Canso, N.S	136 50
Martha A. Bradley	do	72	do	108 00
Marion	do	78	Port Hawkesbury	117 00
Maud B. Wetherell	Provincetown	102	St. Peter's, N.S	153 00
Marsala	Gloucester, Mass	76	Shelburne	114 00
Mystic	do	78	Arichat	117 00
Masconomo	do	91	Canso, N.S	136 50
Monitor	do	104	do	156 00
Margaret Mather	do	91	do	136 50
Mabel W. Woolford	do	104	Yarmouth, N.S	156 00
Mary F. Wells	do	86	Canso, N.S	129 00
Maggie E. Wells	do	80	do	120 00
M.S. Ayer	do	76	Shelburne	114 00
Nellie Dixon	Boston, Mass	105	North Sydney	157 50
Nellie M. Davis	Gloucester, Mass	89	Arichat	133 50
Nellie G. Thurston	do	81	Canso, N.S	121 50
Nellie Burns	Portland, Maine	64	Georgetown	96 00
Orient	Gloucester, Mass	89	Port Hawkesbury	133 50
Porter S. Roberts	do	72	Canso, N.S	108 00
Procyon	do	107	Liverpool	160 50
Paul and Essie	do	64	Lunenburg	96 00
Reub. L. Richardson	do	92	North Sydney	138 00
Richard Lester	do	69	Canso, N.S	103 50
Rigel	do	107	Barrington	160 50
Sarah B. Putnam	Beverly	76	Canso, N.S	114 00
Sir Knight	Booth Bay	76	Shelburne	114 00
Samuel R. Crane	Gloucester, Mass	74	Port Hood	111 00
Sea Fox	do	105	Yarmouth, N.S	157 50
Susan L. Hodge	do	77	Canso, N.S	115 50
Thetis	do	91	do	136 50
Triton	do	67	Liverpool	100 50
Tubal Cain	do	60	do	90 00
Thomas F. Bayard	do	95	Canso, N.S	142 50
Unique	Boston, Mass	75	Yarmouth, N.S	112 50
Urania	North Haven	23	do	34 50
Velocipede	Gloucester, Mass	64	Margaree	96 00
Wm. H. Jordan	do	86	Canso, N.S	129 00
Wm. H. Wellington	do	81	do	121 50
Winona	do	103	Liverpool	154 50
Willie M. Stevens	do	76	Canso, N.S	114 00

SUMMARY.

Total number of vessels	119
Average tonnage	81 tons.
Total amount received in fees	$14,461 50

The foregoing table shows that the 119 United States vessels, averaging 81 tons each, took out licenses, paying a gross amount of $14,461.50. These licenses were issued by authority of a special Act of Parliament, and they covered only the calendar year 1890. The privileges conferred were precisely those of the licenses issued under the *modus vivendi* of the "Treaty of Washington Act," 1888, and the fee payable was the same.

The question of the continuance or discontinuance of this system is one which has been much discussed by our fishing population during the past season, and it is certainly one on which there is room for great divergence of opinion. The actual effect of the system has been to enable the United States fishermen to continue certain lines of fishing which, were they effectually debarred the privileges of buying bait, ice and supplies, they would have been compelled to relinquish. They also at times, when bait is scarce, come in sharp competition with our own bankers as purchasers of bait from the trap-owners and fishermen.

In Newfoundland the system was discontinued at the close of the term of the *modus vivendi* but this action on the part of that Government has generally been regarded as due to the fact that some United States vessels were reported to have utilised the privileges of the *modus vivendi* license, not in the direct pursuit of their calling as deep-sea fishermen, but for the purpose of carrying on the business of supplying the French fleet on the banks with fresh bait, thus rendering the self-sacrifice involved in the Newfoundland Bait Act to a great extent nugatory.

On the side of those who argue for the continuance of the system, it is pointed out that the business of supplying bait to these vessels is of considerable value to a number of small-trap owners and fishermen, from the fact that these license holders, who are, as a rule, the pick of the fleet, compete with the Canadian bankers for the purchase of bait, and thus enhance the price; and should no provision be made for the issue of these licenses during the season of 1891 it will be necessary to increase the number of our police vessels, in order to maintain the efficiency of the service. On purely business lines the advantage lies perhaps with the United States fishermen, inasmuch as thelicense fee of $1.50 per ton cannot be regarded as the full commercial equivalent of the privileges obtained by the payment; but if the fee were raised at all near the standard of such value far fewer licenses would be taken out, and we should experience difficulty in enforcing the law with strictness.

The table already given shows the actual number of United States' fishing schooners which took out licenses during the past season; and in order to give some idea of the extent to which the privileges under the licenses have been availed of, I have obtained the returns from the Custom house at Canso. These returns show that as early as 7th April a license was applied for at this port, and later in the month farther applications were made, but withdrawn, on finding that they did not include Newfoundland, only, however, in most cases, to be renewed later in the season.

An examination of the returns above quoted, which are printed as Appendix "A" to this report, shows that United States fishing vessels paid 289 visits to this port between the 1st of January and the 25th November, as compared with 252 visits paid in 1889. These visits were paid by a 146 vessels, 82 holding licenses issued by the Dominion Government. The 82 licensed vessels paid 206 visits, whilst the 64 unlicensed ones only paid 89. Few of the mackerel fleet visited Canso this year and the diminution in the number of unlicensed vessels is due to this cause. The number of licensed visitors was the same as last year; but, as a consequence of Newfoundland's action, they used our ports to a greater extent than last year, paying at this port alone 37 more visits than in 1889. The conclusion to be drawn from the returns is, that little if any change has taken place in the distribution of the United States fleet among the various fisheries, but that owing to the more liberal policy of our Government, in contrast with that of Newfoundland, the cod and halibut men have taken their licenses out and purchased bait in the Dominion which they formerly obtained in Newfoundland.

The returns have been carefully kept by the collector at Canso at my request, and I would respectfully suggest that blank forms, foolscap size, similar to those in

Appendix, "A" be printed for the Fisheries Department and supplied to the Collectors of Customs at the following ports, to be by them sent to the Department at the close of the season, viz: St. Andrews, Grand Manan, Westport, Yarmouth, Sandy Point, Shelburne, Barrington, Lockeport, Liverpool, Halifax, Liscomb, Whitehaven, Canso, Crow Harbour, Port Mulgrave, Port Hawkesbury, Port Hood, Chéticamp, Aspy Bay, Ingonish, North Sydney, Louisburg, Arichat, Georgetown, Souris, Malpeque, Cascumpeque, P.E.I., and Gaspé Basin, in Quebec. Returns obtained from these ports would render it possible to form a very accurate estimate of the effect and use now made of our ports as a base of operation for foreign fishing vessels.

I have never met a master of any United States fishing vessel who denied the propriety of the grounds taken by Canada in claiming payment, by way of license fee, for the privileges granted, and the only reason that so many of the mackerel fleet have abstained from taking out these licenses is that their catch of fish has been so poor for the last year or two that they could not profitably do so.

Customs.

At many of the principal ports to which the fishing fleet resort in the course of a season the Customs authorities have now arranged for the system of stamping the clearance papers when the vessel makes a report, instead of taking up the form and issuing a fresh clearance. This is a great boon to the fishermen, and in no way militates against the efficient working of the ordinary customs regulations.

The Collectors of Customs at many of the various ports are charged with the collection of pilotage fees, and the question has occasionally arisen as to the liability of fishing vessels to pay these dues. The Pilotage Act, 49 Vic., chap. 86, exempts all vessels of not more than 80 tons, registered tonnage, and authorises local pilotage authorities to exempt vessels up to 250 tons, but the only pilotage authorities, so far as I am aware, who have availed themselves of this power, are (1) Pictou, where vessels not exceeding 150 tons register are exempted from outward compulsory pilotage; (2) Halifax, which exempts Canadian fishing vessels not coming from a port outside of the Dominion up to 120 tons registered tonnage. A few years ago the limit of exemption under the Act itself) 80 tons register) would have covered all the vessels engaged in the fisheries, and during the currency of the old treaty of Washington, in as much as neither United States nor Canadian fishing vessels used to report at the Customs, no claims for pilotage were ever made on these vessels, and the practice reported to me by the various pilotage authorities is, that fishing vessels, both Canadian and Foreign, are apparently by custom exempted from payment of pilotage. To this almost uniform custom Halifax is the only exception; for at that port all United States fishing vessels over 80 tons are charged full pilotage rates when spoken, whether pilots' services are accepted or not. The improvement and enlargement of the fishing vessels, both Canadian and United States, which has taken place of late years, has brought many of them over the exemption limit, all the modern vessels exceeding 80 tons, and the average of the 119 vessels which took out licenses this year is 81 tons.

It is most desirable that the practice on all these matters should be uniform throughout the whole coast; and as the limit selected by the Halifax Commissioners for exempting Canadian vessels seems to be a reasonable one, I would respectfully suggest that the pilotage Acts should be amended by extending the exemption from compulsory pilotage to vessels of 120 tons. This would cover almost the entire fishing fleet, and would not in any way affect the tariffs laid down by the pilotage authorities in the cases where pilots' services were sought or accepted.

The Mackerel Fishery of 1890.

The mackerel fishery of 1890 within the territorial waters of Canada was very much more productive than in the season of 1889.

In the early part of the season, the Intelligence Bureau not being in operation, I have no report available as to the exact date of the first appearance and condition

of the mackerel on our coasts, but the following is a synopsis of the report by Mr. A. Fraser, who had charge of the Intelligence Bureau, on the movements of the mackerel.

The most northerly station on the shore which reported the capture of mackerel was Escuminac, N.B. Here they struck in on 25th June and remained until the middle of September. Some catches were made by netters up the coast as far as Shippigan, but the fishery on the shore was intermittent.

In Prince Edward Island, on the north and west sides, the fishery was good; one red letter day, 25th August, many of the boats getting nearly 2,000 fine mackerel each.

On the Cape Breton coast the fishery was only fair, though some fine hauls were made in Chedabucto Bay; and had the fall weather not been so boisterous, boats, and nets would have done well.

In Nova Scotia the fish showed on the western shore throughout the summer, and the fishery was more successful than for some years, and gives evidence of at least a partial recovery which it is to be hoped may be permitted to continue.

The United States mackerel fleet which visited Canadian waters during the season of 1890 consisted of sixty-four vessels; their catch is recorded in the sub-joined table, double rows of figures indicating, in the case of vessels making two trips, the result of each, the letter "L" signifies that the vessel had purchased a license from the Dominion Government to enable her to ship crew or purchase bait and supplies:

Name.	Port.	Tons.	If Licensed.	Catch.	Remarks.
Agnes E. Downs	Gloucester	81	L.	116	
Alice C. Jordon	do	71	No.	Clean.	
Ada R. Terry	do	82	No.	do	
Ambrose H. Knight	Booth Bay	87	No.	113	
A. R. Crittenden	Gloucester	81	L.	52	
Anna H. Frye	do	64	L.	60	
Canopus	do	68	L.	180	
Caroline Vooght	Booth Bay	79	No.	Clean.	Stranded on P. E. Island
Carl Schurz	Gloucester	68	L.	do	
Charles Tappan	do	68	No.	31	
Davy Crockett	do	81	L.	76	
David Sherman	do	67	No.	40	
Delia Maria	do	54	No.	60	
Enola C	do	62	No.	106	
2nd Trip				25	
3rd Trip				15	
Edith Rowe	Gloucester	80	No.	260	
2nd Trip				12	
3rd Trip				30	
E. A. Williams	Boston	32	No.	51	Netter.
Emma W. Brown	Gloucester	75	No.	330	
2nd Trip				70	
Electa A. Eaton	Gloucester	73	L.	Not given.	Only fished in the fall.
Ellen Lincoln	Portland	92	L.	105	
Flash	Gloucester	99	No.	23	
Fredonia	do	109	No.	460	
2nd Trip				70	
Geneva Mertis	Gloucester	79	No.	160	
Governor Butler	do	87	No.	280	
2nd Trip				100	
Gerty Evelyn	Gloucester	81	L.	Clean.	
Grace C. Hoadley	do	86	No.	160	
Geo. F. Edmonds	do	141	No.	Not given.	
2nd Trip				30	
Harry G. French	Gloucester	95	No.	173	
2nd Trip				60	
Herald of the Morning	Gloucester	65	No.	23	
Henry L. Phillips	do	76	L.	Clean.	
2nd Trip				73	

List of Seiners.—*Continued.*

Name.	Port.	Tons.	If Licensed.	Catch.	Remarks.
Henrietta Francis	Gloucester	73	No.	37	
Hattie Evelyn	do	66	No.	73	
Jeannie Seaverns	do	106	No.	150	
2nd Trip				120	
John S. McQuin	Gloucester	77	No.	40	
J. G. Craig	Portland	73	No.	140	Our reports 80.
James Dyer	do	81	No.	110	
Lizzie M. Center	Gloucester	78	No.	310	
2nd Trip				140	
Lottie M. Haskins	Gloucester	55		171	Spring trip.
Lilla B. Fernald	Portland	73		12	
Louis and Rosie	Booth Bay	73		8	
Laura Belle	Portland	77		70	
Lizzie W. Hannum	Gloucester	71	L.	Clean.	
2nd Trip				237	
3rd Trip				4	
Laura Nelson	Gloucester	85	L.	52	
Louise Pollys	do	70	No.	Clean.	
2nd Trip				155	
Lizzie Maud	Gloucester	79	No.	Clean.	
M. L. Wetherell	do	73	No.	240	
2nd Trip				180	
Mary Fernald	Gloucester	76	No.	130	
2nd Trip				120	
Mayflower	Gloucester	95	No.	Clean.	
Marion Grimes	do	61	No.	148	
Norumbega	do	120	No.	182	
Notice	do	66	No.	160	
Nellie N. Rowe	do	79	No.	142	
Northern Eagle	do	35	No.	30	
Orient	do	89	L.	78	Master died.
2nd Trip				60	
Rapid Transit	Gloucester	80	No.	100	
Ralph E. Eaton	do	65	No.	63	
Roulette	do	63	No.	Clean.	
Rushlight	do	62	No.	45	
S. F. Maker	do	104	No.	330	
2nd Trip				230	
Senator Morgan	Gloucester	86	No.	447	
2nd Trip				145	
Star of the East	Gloucester	62	No.	131	
Sunshine	do		No.	80	
Senator Saulsbury	do	104	No.	90	
W. D. Daisley	do	95	No.	150	
Willie Irving	do	70	No.	Clean.	

Twelve licensed and fifty-two unlicensed seiners, making in all sixty-four vessels, total take, 8,443 barrels.

The catch by the United States' fishermen north of Cape Sable and outside of the territorial waters of Canada is, on the whole, one thousand barrels greater than that of last year, but an examination of the records shows that this does not indicate for them any improvement in the general fishery. The increase is due to the fact that the fish were rather later than last year in coming into the shore; and whilst still in large schools, the early spring fleet succeeded in capturing 2,566 barrels this year, as against 337 barrels taken last year.

The season's fishing from 1st July onwards shows that only 5,168 barrels were taken this year, as compared with 6,438 in the same time of 1889.

The following is the catch of mackerel for the years 1888, 1889, 1890 by United States fishing vessels, made in the waters off the Nova Scotian coast and in the Gulf of St. Lawrence:—

1888—83 vessels	take	10,418	brls., average	126	brls. per	vessel.
1889—62	do	6,755	do	109	do	
1890—64	do	8,443	do	132	do	

So far as the Unites States mackerel fishermen are concerned, the season's total catch will be even less than that of 1889, which was unprecedently low, and the following table exhibits the relative positions of the United States and Canadian fishermen. In the case of the United States' fishing grounds, the fishery has still declined, whilst the inshore Canadian waters have exhibited a marked improvement. The returns not being yet available, the Canadian catch is estimated, but that for the New England fleet is based on report made to our police vessels by the Unlted States fishermen, and on the reports of the New England catch as published :—

		1885.	1886.	1887.	1888.	1889.	1890.
Canadian catch	Brls.	148,450	152,292	13,1653	65,777	65,849	90,000
United States catch	do	330,000	80,000	78,000	40,000	17,794	16,140
Total		478,450	232,292	209,653	105,777	83,643	106,140

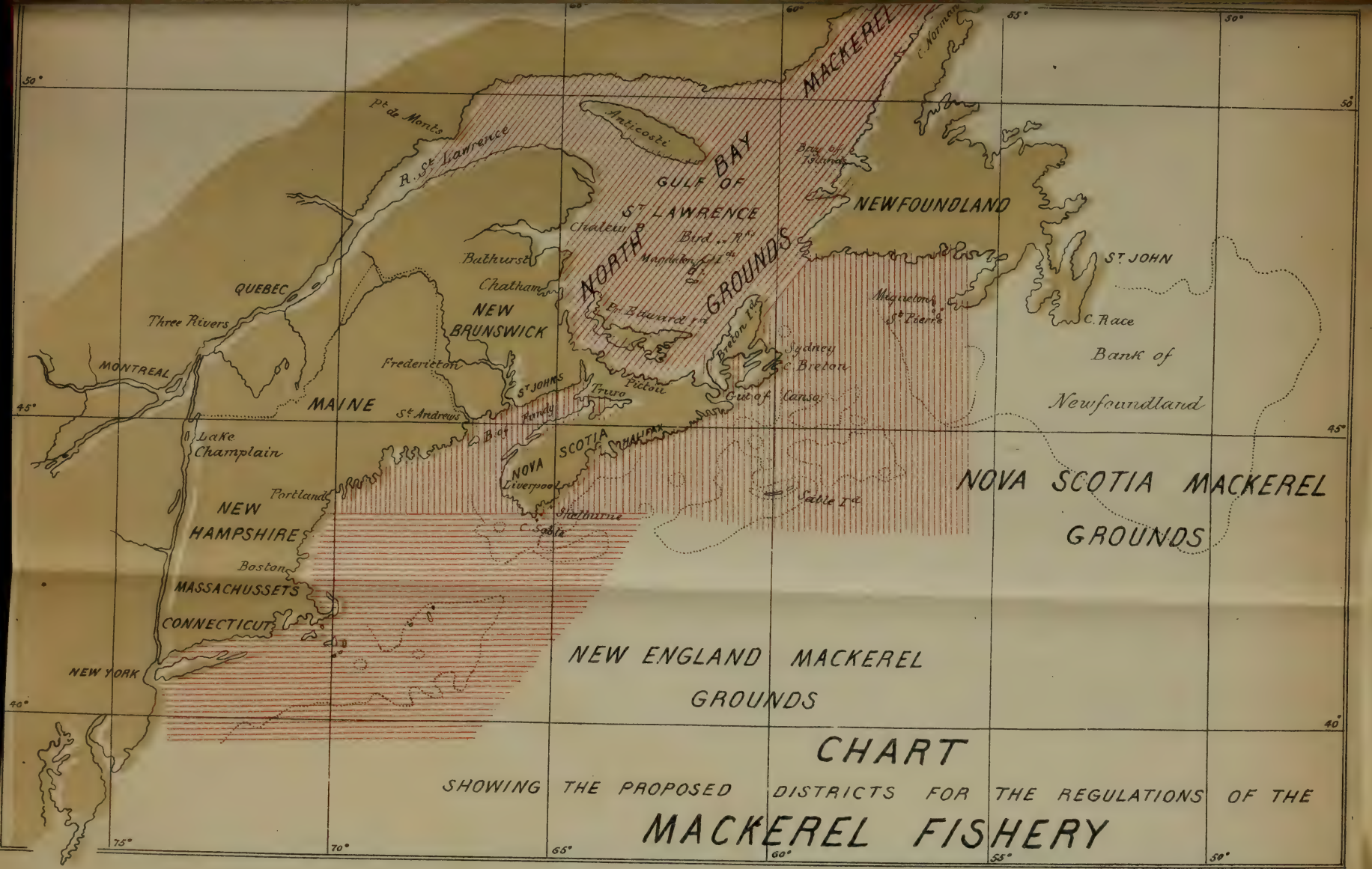
These figures exhibit in a startling light the differences between the United States and Canadian mackerel fishery, and give some measure of the value of the retention of the inshore fisheries for the sole use of our own people.

The year 1885 was the last season in which the United States fishermen were free to fish within our territorial waters, and in that year their total catch was 330,000 barrels, of which about one-third may be estimated as having been taken north of Cape Sable, making the total catch in the northern waters about 250,000 barrels; against a total catch in 1890 of about, in round numbers, 100,000 barrels, taken in the same waters; but, where in 1885 the United States fishermen took fully 40 per cent. of all mackerel captured in northern waters, the closure of the inshore fisheries has reduced their share down to a little over 8 per cent. Hence, though from overfishing and improper fishing, the product of this fishery has greatly fallen off, our own people now secure a much larger share than they formerly did.

The fishery in Canadian waters has this year improved somewhat, and if not destroyed will, I think, continue to so do. Large masses of small fish were seen this year and bodies of adult fish appeared at places where for some seasons none have been taken. This is notably the case in St. Mary's Bay, where considerable quantities of the fish were taken, and, but for lack of preparation the fishery would probably have been even more successful at that place.

I have in former reports urged on your notice the desirability of making an international arrangement for the total suppression of the use of the purse seine, or at least for its prohibition, until after the spawning season for mackerel. I have also dealt with the question of the season and areas for prohibition, and I now show on the annexed map the three great areas into which the mackerel fishery naturally arranges itself, in accordance with the gradations of marine climate, due to geographical position, the trend of the coast line, and the physicial characteristics of the ocean and the bottom.

The first or most southerly area is that marked on the chart as the New England mackerel fishery, and lies to the southward of the parallel of latitude passing through the south point of Cape Sable Island. This area is already protected against the injurious effect of the purse seine, when used at improper times, by Act of Congress, which prohibits the landing in the United States of all mackerel caught in a purse seine prior to 1st June in any calendar year, because in this region the spawning season is practically over before this date.



CHART

SHOWING THE PROPOSED DISTRICTS FOR THE REGULATIONS OF THE

MACKEREL FISHERY

The second or middle area, called on the chart the Nova Scotian mackerel ground, is farther north, and hence the spawning season, as might be expected, is later, In this region it would be necessary to prohibit the use of the purse seine up to 1st July, in order to give the fish the same measure of protection that those to the south receive under the Act of Congress above quoted. In this region, during the season just closed, United States fishermen captured during the month of June about 2,500 barrels of gravid fish, which ran about 200 or more to the barrel, and if these half million of unspawned-fish had been left free for another month we should have had many millions of fry which were then destroyed.

The third area is the Gulf of St. Lawrence, and in this no purse seine should be shot prior to 23rd July, unspawned fish being occasionally taken as late as 1st August.

Public opinion among the fishermen, as a whole, is decidedly hostile to the use of the purse seine, and many of the seiners this year discarded its use almost entirely and relied for their summer's catch on hook and line work. To this is due the fact that no less than twelve United States mackerel catchers this year took out Dominion licenses, to enable them to purchase bait and to ship expert hookers. The system of purse seining, so long followed by the Gloucester men, having caused the disappearance from the United States fleet of the skilful hook-and-line hands of which they formerly boasted, whilst in Canada the system has never been abandoned altogether, though considerable numbers of our fishermen were tempted to embark in the purse seine fishing, as a rule with unprofitable results to themselves.

I heard of a case this year, and have had the story since confirmed, which illustrates well the condition of the fishery. A seiner belonging to the United States was drifting hooking, having the fish raised nicely to the bait, though not biting keenly, when a small school was seen playing near by; the crew insisted, against the advice of the master, on giving up the hooks and going in the seine boat in pursuit of the school, which they chased unsuccessfully for several hours, and when they returned to the ship, tired out, were bitterly disappointed to find that the cook and the other hand left on board had caught upwards of a wash barrel of fish while they had been toiling for nothing. Had they stuck ploddingly to their hooks they would probably have had seven or eight barrels for their day's work.

All the United States vessels that came north this year were using bait, and nearly all made the greater part of their catch with the hooks; there were, however, two vessels, the "Lizzie W. Hannum" and the "E. A. Williams," which came down fitted as drift netters, a new departure entirely in the mackerel fishery of our northern waters, though it is the system which has been commonly followed in Great Britain. These nets, which are deep and of great length, are in gangs or fleets on one strong head rope, and when put over, the ship rides to her nets and drifting slowly keeps the line of nets straight out. This is purely a night fishery, and is therefore not so injurious to the fish as the purse seine.

Our mackerel fishery has been largely saved from extinction by the protection given to our inshore waters, but the restoration of its former profitable condition will be a work of years, if indeed it ever happens, unless steps are taken actively and immediately for the further preservation of the fish. It is quite true that without international agreement we cannot forbid the use of the purse seine on the high seas, but we can forbid its use within the territorial waters of Canada; and further, if a regulation is made that no purse seine shall be carried in a seine boat during the close time in the said territorial waters, under a penalty of $100 for the first offence, and the same, together with the forfeiture of the seine on the second offence being proved, this regulation would involve so much handling of the seine and such trouble and anxiety to the masters that it would greatly discourage the use of the seine.

Theorists may talk about the rise and decadence of deep-sea fisheries being beyond the control of man, but the mackerel is not purely a deep-sea fish; it spends a great portion of its existence near the shores, and the facts already known and stated in previous reports speak louder than any theories, and show that the mackerel

fishery has been ruined on the United States coasts and greatly injured on our own by the use of the purse seine, especially by its use at improper times.

If timely action is now taken the restoration of the mackerel fishery may reasonably be looked for. International arrangement is most desirable, but failing that I am strongly of opinion that action should be taken at once within the proper limits of Canadian jurisdiction, and a regulation such as I have described would do a great deal to discourage the use of the purse seine. A fisherman particularly dislikes anything that savours of extra or unprofitable labour, and the fact that the seine boat would have to be hauled up alongside and the seine handed out of her on to the ship's deck every time a vessel wanted to go into port, or even to pass through Canadian territorial waters, would prevent many a fisherman from taking to purse seining. The net and trap fishing also needs regulation, but this will be dealt with more particularly in another part of my report.

In concluding these remarks on the mackerel fishery, I may point out that at no period in the history of the fishery has there been a time when a measure forbidding the use of the purse seine would have been received with less disfavour than now. Many of the old seiners are thoroughly disheartened, and I have not heard of any new seines being ordered this season, so that the injury to invested capital would be very much less than formerly. I am strongly of opinion that the limitation of the use of the purse seine in the three areas as set forth in the map herewith would meet with the approval of a large portion of our own fishermen, and with but little objection from those of the United States. If, therefore, international co-operation can be arranged for this measure of protection it will be a matter of congratulation and, in the long run, of great service to the fishermen of both countries; but failing to obtain such co-operation I would urge on your notice the advisability, or in fact almost the necessity, of taking action in respect to the territorial waters over which our powers are undisputed.

The Lobster Fishery.

The lobster fishery of 1890 was, speaking generally, a great improvement over that of 1889. On the Atlantic coasts of Nova Scotia the weather was somewhat stormy during the season, and as a consequence the catch was smaller there than in 1889; but the extraordinary advance in price has made the business a very profitable one to the packer, though I am not aware of any case in which the fishermen have been permitted to share in the increased profit. In the Gulf of St. Lawrence, the total pack will be found to have exceeded considerably that of 1889, and it is satisfactory again to be able to say that, at any rate, in the early part of the season, the size of the lobsters showed considerable improvement.

The force under my command was again employed for the enforcement of the regulations in regard to the lobster fishery; and the additional experience which I have this year acquired has only confirmed my previous opinion that the force at the command of the Department is inadequate for the purpose of ensuring a strict compliance with the regulations during the open season. I state it as an opinion founded on my own observation and on the admissions made by those connected with the industry, that in the Gulf of St. Lawrence, along the Nova Scotian and New Brunswick shores and on Prince Edward Island, no single day's pack was ever put up during the past four years on which the packers might not have been fined for undersized or "berried" lobsters. To such an extent is the destruction of the female lobsters carried on that at one time I was informed that for several days fully one-third of the entire pack of a factory consisted of "berried" lobsters, and it is quite true to state, that there has been no general attempt on the part of the packers to carry out the law in regard to the limitations of sex and size of the lobsters.

On the outer coast the unfavourable weather reduced the catch, and acted as a measure of protection during the regular season; and the illegal packing in September and early October was this year put a stop to by seizing the traps which had been set illegally, rather more than one thousand traps having been seized and destroyed between Wedge Island and Halifax harbour. These traps were all the pro-

perty of individual fishermen and could not be replaced under 80 or 90 cents each, so that the seizure and destruction of these traps was equivalent to collecting fines to the extent of between $800 and $900, and I am of opinion that if a police vessel be kept on the coast from 15th August to 15th October it will be quite possible to put a stop to this illegal fishery in the close season.

It is a question deserving much consideration as to what measures for the protection of the fishery can be framed which will be capable of being readily enforced, and will at the same time not seriously hamper the legitimate prosecution of the business.

In considering this, let us take the case of a good factory, putting up from 1,600 to 2,400 cases, this establishment would probably be running receiving lobsters on thirty or thirty-five working days in the present season; on each of these days a fine of, say $20, could be collected, which would amount to about $600, an amount which, at the present price of lobsters, would rather be regarded as an excessive license fee than as a prohibitory fine. If the present regulations are retained in force I regard it as most important that the penalties should be such that it would be possible to render the illegal prosecution of the business unprofitable.

The system in the State of Maine is that the fine imposed, is without discretion of the convicting officer or justice, fixed at a definite sum per lobster found in possession of the accused illegally, and I would strongly urge upon your notice the advisability of amending the Fishery Act so that the fine shall be, say, $2 per lobster found illegally in possession.

I would especially urge upon your notice the point that the present condition and prospects of the lobster market render the time most opportune for the strict enforcement of the law. Canned lobsters have been sold during the past season as high as $7 per case of 48 lbs., which formerly sold for $4; and if we allow that $6 is the ruling price, a much smaller pack can be put up profitably at this figure, whilst the improvement in the quality would tend to enhance the price still further.

To those packers then, who hold that the present regulations are all-sufficient, the reply is simply that the Department is also of opinion that these regulations are sufficient if enforced by adequate penalties.

There is, however, another view to this whole question, and one which commends itself to many; but before discussing the propositions involved, it may be well to discuss the different means adopted for the protection of this fishery.

They may be divided into two classes, the one to be classed as restrictive enactments and the others as reproductive measures.

The restrictive enactments now on the Statute Book are :

(1). In regard to close time;

(2). In regard to size of crustacean to be taken;

(3). In regard to condition and sex.

(4). A fourth restrictive enactment might well be added, to establish closed areas or nurseries for the development of the young. In these closed areas no traps should be allowed to be set.

The reproductive measures have already been inaugurated by the Department, and the central hatchery at Bay View N.S. will doubtless do good work in its immediate vicinity. The artificial propagation of fish has now been proved commercially successful; but, like many other commercial ventures, in order to derive the fullest benefit from the system, the undertaking must be on the largest possible scale. Nor need the fear of expense deter from the undertaking, for the increased capacity of the works is obtainable at a greatly reduced cost. In the case under consideration, however, the propagation of the lobster, a central establishment, though absolutely necessary for the study of the question, can do but little for the fishery at large. Nor can those interested in the fishery expect the Department to undertake the artificial propagation on such a scale as would be necessary without some direct contribution or aid from the packers themselves. Fortunately, the path has been already cleared by the enterprise of the Newfoundland Government and the skill of Mr. Nielsen, their Superintendent of Fish Culture.

This gentleman has devised a hatching trough or box which can be utilised at the canneries for the purpose of hatching out the ova or the "berried" lobsters now illegally captured; and thus the packers and fishermen can be enlisted on the side of the Department for the saving of the ova, the destruction of which now, perhaps, more than anything else, militates against the speedy restoration of the fishery.

To show that this is no idle statement I will take the case of a cannery putting up 2,000 cases, or 96,000 lbs.; these require say half a million lobsters to put up, and my enquiries show that probably 1 in 5 are "berried" lobsters—say 100,000. Now, take even one-half of this, and say that 50,000 "berried" lobsters, each carrying about 20,000 exuded ova, were destroyed in putting up the 2,000 cases, we have no less than 1,000,000,000 ova destroyed; and if this rule be applied to the 220,000 cases which constituted the product of the fishery for the year 1889 we have a number of 110,000,000.000 as the wanton destruction of ova which it is possible by the use of this simple means, to save—at any rate, in some small measure; for even a saving of 1 per cent. of such a total represents a number the magnitude of which figures fail to bring home to the mind.

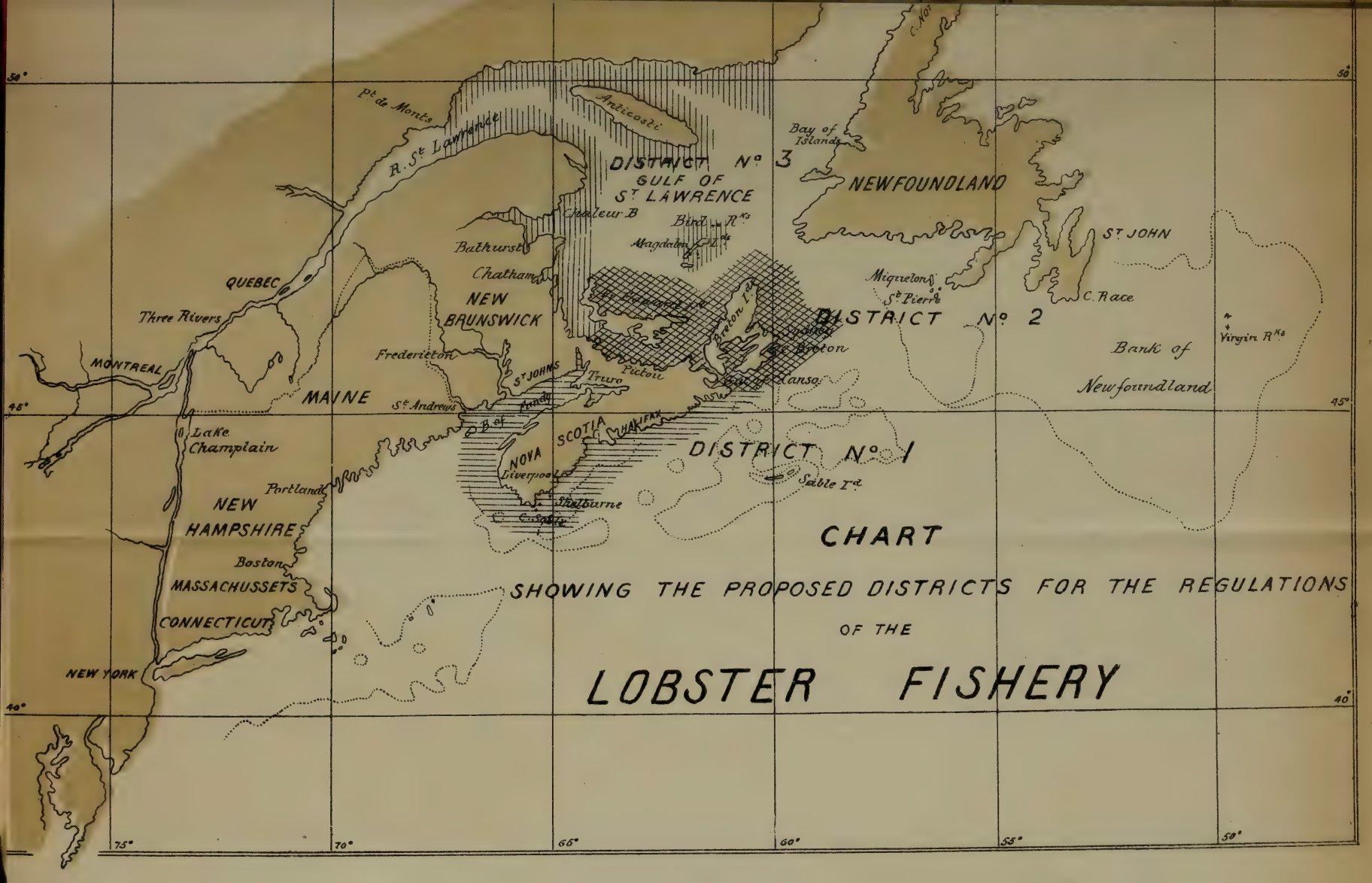
If we pass now to the consideration of the restrictive enactments we find that in regard to the close time the regulation has been, on the whole, well observed within the Gulf of St. Lawrence, and the illegal fishing was this year stopped on the Nova Scotia coasts and can be absolutely prevented for the future. (2). This regulation in regard to size has not been generally observed, except by those fishing for the purpose of selling the lobsters for use fresh in the markets. I know of no cannery which culls the lobsters as they come out of the boats. (3). Soft shell lobsters are never taken to any extent, but the regulation as to the female lobsters carrying exuded ova meets with no more general observance than that in regard to size.

As a part of the remedial legislation proposed in my report of last year, I invited your attention to the establishment of closed areas or nurseries for lobsters, in which no trap was to be allowed to be set. I then proposed in detail that two miles out of every ten should be set apart as a closed area, and I still think such an arrangement would be fraught with the greatest benefit to the fishery; but if the difficulties in the way of establishing any such rigid plan seem too great, then an almost equally effective system would be the establishment of somewhat larger areas or nurseries, and the identification of the boundaries of such closed areas by existing landmarks, headlands, churches, &c.; the object of this is to permit of the natural reproduction of these valuable crustaceans. All artificial work takes time, and is only a partial success after all, when compared with nature's methods when here we have a potent remedy capable of being applied immediately and under circumstances ensuring a high percentage of success.

I would therefore respectfully suggest that the Inspectors of Fisheries be requested to locate certain closed areas, approximating five miles of closed area, to say, twenty miles of open, without regard to absolute fidelity to these distances, which are given rather as a guide to the relative proportions of open and closed areas, which I consider it desirable to establish; and given the establishment of these undisturbed areas the benefit would speedily be found by the re-stocking of the comparatively depleted waters along the coast; because the young fry, when first hatched out and in their free swimming state, would not continue residents of the closed area, but would be carried along the shores by the tidal currents, and finally become a denizen of the locality where he first assumed his shell jacket.

The adult lobster is, in my opinion, far less migratory than is generally supposed by fishermen, and packers and fishermen should both have faith that, if by reason of size or time limit they are prohibited from capturing a lobster, it is only a postponement and not a final prohibition, for the same lobster will be on the ground next spring and will be worth more then than if captured either undersized or after the close season.

I have now spent four complete seasons in command of the Fisheries Protection Service, and have given much time and thought to the question of the restoration of


Pt de Monts
R. St Lawrence
Anticosti
DISTRICT Nº 3
GULF OF
St LAWRENCE
Chaleur B
Bird Rks
Magdalen Is
Bay of Islands
NEWFOUNDLAND
St JOHN
Miquelon
St Pierre
C. Race
Bathurst
Chatham
NEW
BRUNSWICK
QUEBEC
Three Rivers
MONTREAL
Fredericton
St JOHNS
Truro
Pictou
Canso
DISTRICT Nº 2
Bank of
Newfoundland
Virgin Rks
MAYNE
St Andrews
B of Fundy
NOVA SCOTIA
HALIFAX
DISTRICT Nº 1
Sable Is
Lake
Champlain
Portland
NEW
HAMPSHIRE
Liverpool
Shelburne
C. Sable
Boston
MASSACHUSSETS
CONNECTICUT
NEW YORK
CHART
SHOWING THE PROPOSED DISTRICTS FOR THE REGULATIONS
OF THE
LOBSTER FISHERY
50°
45°
40°
75°
70°
65°
60°
55°
50°

the lobsters fishery, and respectfully offer the following suggestions as embodying what I believe to be in the best interests of the maintenance of this most important fishery industry. I annex hereto a map, on which the districts referred to in the following proposed regulations are marked as "No. 1" "No. 2" and "No. 3."

PROPOSED REGULATIONS FOR THE TAKING OF LOBSTERS IN THE DOMINION OF CANADA.

The following shall constitute the District No. 1 for the purpose of these regulations, namely all the territorial waters of the Bay of Fundy, and islands thereof, and of all the islands and coasts of Nova Scotia on the Atlantic Ocean, lying westward of Cranberry island Light house, near Cape Canso.

District No. 2 shall consist of the territorial waters around the coasts and islands of Cape Breton, and the coasts of Nova Scotia not included in District No 1, and the coasts of New Brunswick facing on Northumberland Straits, as far west as Cape Jourimain lighthouse, and the coasts of Prince Edward Island, from Cape Traverse pier eastward around Cape Bear to East Point, and hence westward to North Point lighthouse.

District No. 3 shall consist of the coasts and islands of the Gulf of St. Lawrence not included in District No. 2.

(*a.*) No person to be permitted to fish for lobsters without first taking out a license stating the maximum number of traps or other devices which he intends to use in the prosecution of the fishery, which license shall be obtained from the nearest fishery officer or officer of Customs on payment of a fee of 2 cents for each trap or other device which the applicant intends to use.

(*b.*) No person or persons or body corporate shall be permitted to pack, can, preserve or cure lobsters without first taking out a license, the fee for which shall be $50, and an additional charge of 10 cents for every 48 pounds of lobster meat packed or canned by the licensee in excess of 24,000 pounds weight; and where there are separate boiling houses in connection with any canning or packing establishment, and more than a mile distant therefrom, the license fee for every such boiling house shall be $50 in addition to the above fee for the central establishment.

(*c.*) All boats and trawl buoys used in connection with the lobster fishery and all cars for keeping of lobsters alive, shall have a mark for identification, indelibly cut or branded thereupon, which mark shall be described in the license.

(*d.*) Every licensee shall, when called on by a fishery officer, or other officer of the law, to produce his license, shall do so, forthwith and failure to do so shall be *prima facie* evidence that a breach of the Fishery Act has been committed.

(*e.*) Licenses to fish shall be transferable by the local fishery officer on application being made to him, or a license may be issued in the joint names of any two fishermen.

(*f.*) The close season for lobsters shall be from the 15th day of July to the 31st day of December in each year. Penalty for fishing during close season to be $50 for each offence and $2 for each lobster, and in default of payment of the fine, imprisonment up to two months may be inflicted.

(*g.*) No lobster less than 9 inches in length and no female lobster carrying exuded ova to be taken, under similar penalties to those above mentioned.

(*h.*) In District No. 1 it shall only be lawful to can or pack or otherwise preserve lobsters between the 29th day of May and the 2nd day of July, both days inclusive.

(*i.*) In District No. 2 it shall only be lawful to can, pack or otherwise preserve lobsters between the 5th day of June and the 10th day or July, both days inclusive.

(*k.*) In District No. 3 it shall only be lawful to can pack, or otherwise preserve lobsters between the 10th day of June and the 15th day of July, both days inclusive.

(*l.*) In each district, during the season it which it is lawful to pack or can lobsters, the regulation limiting the size of lobster which may be taken shall not apply to lobsters delivered at any licensed cannery.

(*m.*) In each district, during the season in which it is lawful to pack, can or otherwise preserve lobsters, the regulation prohibiting the capture of female lobsters carrying exuded ova shall not apply to any lobsters delivered at a licensed cannery, when the proprietors of such cannery have fitted up boxes for the hatching out of such ova as may be taken from the female lobsters delivered at the cannery—such boxes to be of the pattern approved of by the Superintendent of Fish Culture for the Dominion; and the Minister may, on receipt of a certificate from the fishery officer that such approved hatching boxes have been in successful operation throughout season, allow towards the expenses of saving the said exuded ova a sum of $3\frac{1}{2}$ cents per case of 48 pounds on the output of the cannery.

The adoption and rigid adherence to these regulations during a period of, say three years, would, I am convinced, not only vastly improve the fishery, but would, by improving the quality of the pack retain, for our Canadian product that reputation for superior excellence which it formerly had.

Under the present methods of conducting the business many canneries are owned and worked by citizens of the United States and lobsters caught and packed in the Gulf of St. Lawrence are labelled in our Canadian factories as product of the United States; and thus in the markets of the world the States of Maine and Massachusetts get credit for goods which are the production of Canada, though the capital and energy employed may both be the property of the citizens of the United States. I would urge on your notice, in this respect, the advantage which a license system would have—that it could be forbidden to label the products of our factories with foreign labels. A very considerable proportion of the goods are sold unlabeled, and if they are so sold, and the consignee in the United wishes to label the goods, he can of course do so; but this would involve unpacking and re-handling, all of which means expense and the packers would rather label the goods in the place of production than incur this expense; and I am strongly of opinion that Canada should insist on, as far as possible, obtaining credit in the world's markets for the goods produced within her borders.

The Shore Fishery and the Bait Question.

I have in previous reports discussed at length the question of the interdependence of the anadromous and coast or shore fishery, and the added experience of passing years only confirms my conviction that the welfare of the shore fishery is largely dependent on the supply of so-called anadromous bait. A general view of the rivers flowing into the Atlantic and Gulf of St. Lawrence shows that the quantity of anadromous fishes is reduced, from the vast crowds which formerly thronged the streams and lakes, to proportions the most attenuated. The causes are well known and some of them are irremediable, though their effects may eventually be minimised, but those causes that can be removed it is the highest duty of the Department to continue to attack. I allude in this particular to the continued blocking and defilement of the streams, and to the illegal fishing which goes on. Much may be done by the application of existing remedies, and though we cannot hope to restore the fishery to its former condition, proper fish-passes, no defilement and rigid adherence to close seasons will, with the aid of artificial propagation, do much to attain the desired ends and every step taken in the direction of improving these anadromous fisheries must be regarded as of benefit to the shore fishery. The numbers actually engaged in the deep-sea and shore fishery remain almost constant.

The figures for the Maritime Provinces in 1889 given by the Inspectors being:—

	In Vessels.	In Boats.
Nova Scotia	6,814	20,520
New Brunswick	637	9,890
P. E. Island	559	3,686
Total	8,010	34,096

CHART FOR FISHERIES STATISTICS

The welfare of these 34,000 men who fish in boats is so entirely dependent on the harvest which they gather from the deep that in the Province of Nova Scotia, at any rate, it is true to say that their prosperity or adversity is almost that of the people.

The means of capture used by these people are hook and line, hand line fishing and trawling. They also use large quantities of net for the capture of herring and mackerel, and along the shore there are at various places traps and weirs, as well as shore haul seines.

In my report of last year I drew special attention to the enormous amount of net used by the fishermen of the Maritime Provinces, and also to the desirability of regulating the fishery within the territorial waters of the Dominion. The nets used in Nova Scotia have been considerably diminished, but those of New Brunswick and Prince Edward Island have been increased; so that the figures, though they show some forty miles less than in 1888, are still the enormous total of 1,110 miles of net, 5 fathoms deep, with all the seines to be added to this already great total.

Continually meeting and conversing with these fishermen, I find that their perilous and arduous labours are but poorly repaid, though in this as in every other business there are those who, whether it be due to superior energy and pluck or to greater skill are much more successful that their fellows. As an instance, I know in one port in the Province of Nova Scotia of a fisherman, owner of a good boat, who, during the season just closed, grossed, as the proceeds of the catch in his boat, upwards of $600 out of which his sharesman would take $150. But a high average take seems to run very much as follows :—

About 60 quintals cod	$240 00
do 2 barrels mackerel	28 00
do 11 do herring	44 00
do 20 quintals hake and haddock	57 50
Total	369 50
The sharesman takes ¼ hook and line and every fifth barrel netted fish	88 67
Balance for owner of boat	$280 83

Many will fall short of this catch, but I think in one way or another the pushing and energetic fisherman has had the opportunity this year of earning about the above amount, which has, of course, to be charged with depreciation of material, loss of nets, &c; so that, if he has something over $200 left for his family maintenance it is all that can be looked for. All fishermen agree in the statement that the shore fishery has of late years fallen off and become uncertain to a degree, but as the statistics of catch do not distinguish between fish taken in the decked vessels and those taken in boats it is impossible to say definitely to what extent the falling off is real. There is, however, a saying among the fishermen, which tends to prove the correctness of their assertion, viz., "That it takes a great deal more twine (*i.e.* net) to get the fish now than formerly."

The question for discussion is, then what measures, if any, is it in the power of or desirable for the Department to take for the purpose of improving this great industry.

I have already spoken of the anadromous fisheries, and whatever can be done in that way should be kept in view constantly. But there is one point, aside from any question of restrictive legislation, which can be taken up and worked to advantage of both the shore and deep-sea fisheries, viz., the question of the supply of bait. Much of the fine weather in summer is lost to fishermen of both vessels and boats by reason of the difficulty experienced in getting a supply of bait. I have known vessels to lie in port for weeks waiting for squid to strike in, and unable to get any other bait.

The baits used are gaspereaux, herring, mackerel, squid, and on the Quebec shores launce and caplin: and the reserve bait, when all others fail, is the clam; but it takes a day to dig the clams for a day's fishing at many places, so that the time of the boat fishermen is reduce one half when the weather is best.

I would point out that much might be done by the erection of cheap freezing houses and cold stores, so that when the spring herring struck in, a large quantity might be preserved by freezing, to use as bait when the regular bait got scarce. The principle is largely adopted for handling the products of the fisheries of the great lakes. The ice houses are inexpensive structures, and the covering used as a non-conductor is hay. The fish, when first taken, are put in the room called the "freezer," which contains ,according to its size, a number of hollow cylinders, which reach from the floor to the room above and terminate beneath the freezer in a conical point and drainage tube, passing into an under-drain. The cylinders are filled from the room above with ground ice and salt, and lower the temperature of the freezer considerably below the freezing point, so that even large fish freeze rapidly. When frozen, they can be removed into adjoining compartment, which contains fewer cylinders of ice and salt, and is used is simply as a cold store, in which the fish are stacked up. A building 40 x 20, with a 12 feet post, would be ample for the storage of a large quantity of herring, and at many places would be a great value to the fishermen. On a larger scale, if the spring herring at the Magdalen Islands were put up in this way they could be readily sold to both boat fishermen and bankers; for at present, owing to the high price and scarcity of mackerel, there is a period between the spring herring bait and the squid baiting in which all bankers are, per force, idle, and when the squid first come in there is such a demand that the price is doubled or even trebled.

The erection of these ice-houses must be left to private enterprise, but plans and specifications might be prepared by the Department, showing in detail the methods so successfully used on the Great Lakes, and copies thereof, with full information, given to any one making application.

This question of the bait is the key to the successful operation of the entire fishery, and if by means of frozen herring bait we can give back the two or three weeks lost cod fishery due to the destruction of the mackerel, the gain would be immense, because it is the latter part of June and early July, and the very finest weather of the season, that is lost.

The question of restrictive measures is a very delicate and difficult one, but I unhesitatingly condemn any method of fishery which tends to waste the product. In the North Sea herring fishery and in the Irish mackerel fishery the fishing boat stays by her nets and if the weather becomes ugly the nets are hauled; but in our waters, since the cheap American nets have been introduced, many fishermen will take all the net they can get on credit, or by means of small payments, and the result is that it is quite a common thing for a boat to have more nets than it can handle daily, and the nets are left in the water day after day and night after night, and if a spell of bad weather comes the fish that are meshed rot in the nets. I have known beautiful mackerel utterly destroyed in this way.

Restrictive measures are abhorrent to the uneducated fishermen; and though many of the better educated among them may appreciate the motive underlying the measure, they are such fatalists that they are almost certain to oppose it, and great mischief may be done before any large proportion of the fishermen could be brought to believe that it was any use for man to interfere in the sea fisheries.

I am, however, firmly of opinion that some thing must be done in the way of restrictive enactment to deal with the literal wall of net which surrounds our coast day and night. These nets do not mesh the fish in the day time; they only wall them out and keep them from their natural spawning grounds.

In the Atlantic, on the west coast of Scotland, the law is that no net shall be set or shot between sunrise and one hour before sunset on any day between the 1st day of June and the 1st day of October, nor between sunrise on Saturday morning and one hour before sunset on Monday evening.

This law has been declared necessary by the Scottish Fishery Commission, has been enacted by the Parliament of Great Britain, and is now enforced by armed fishery police cruisers.

In Canada we require some such measure. I would propose that in order to regulate the fishery an annual license fee of one-fifth of one cent. for every square fathom of net be charged to the fishermen, which would, on the ordinary nets, be equivalent to one cent per running fathom, and that no license be granted to any individual boat for more nets than the owners can lift and set daily; and that throughout the season no net other than licensed trap nets shall be allowed to be kept set between seven in the morning and five in the afternoon; all net buoys to be branded with the name of the owner, or with a mark registered with the nearest Collector of Customs or fishery officer. The enactment of the regulation prohibiting the setting of nets during the day, as above, would have the effect of reducing the quantity at once, because the nets being illegally set would be liable to seizure, consequently the boat's crews would not set more nets than they could attend to.

The fall herring fishery was at one time one of the great fisheries of eastern Nova Scotia; it was from these fish that the food of the people was taken; but of late years this fishery has failed. One reason of the failure is, I believe, the excessive fishery on one spot or spawning ground. In the Bay of Fundy the fishermen now recognise the benefit accruing to them from the preservation of the spawning beds on Grand Manan. And I would strongly urge on your notice the advisability of protecting what I believe to be a similar spawning ground for the fall school of herring near the mouth of the St. Mary's River, Guysboro'. This ground has for several years past been visited each fall by a regular fleet of vessels, some carrying as many as a hundred nets, and not only have they injured, not to say ruined, the fishery, but this mass of nets, brought from all parts of the coast, has prevented the local resident fishermen from getting a reasonable share in the catch.

I would recommend that the area which can be swept by a radius of seven miles from Wedge Island lighthouse be set apart as a spawning ground for herring, and that between the 15th day of September and the 15th day of November no net shall be allowed to be set in the waters of said area, save by those holding licenses therefor, such licenses only to be issued to local resident fishermen and quantity licensed not to exceed 1,000 square fathoms of net to each boat owned in the coast of the district so set apart. This amount of net will not interfere with the fish coming in, but will be sufficient to enable these local resident fishermen to get the food supply which they require for themselves and their families. I feel that I cannot too strongly urge on your notice the advisability of adopting, with the least possible delay, this measure of protection for a much depleted fishery.

I cannot do better than close this part of my report with a quotation from the report of the Fisheries Commissioners of Newfoundland, who say: "It is useless for mere theorists to tell us that fish are so prolific that they cannot be exterminated; that for some unknown causes fish come in plentiful some years, then become scarce, and after years of absence return in abundance; that we cannot calculate their erratic pelagic movements; that man cannot exhaust the great ocean. These specious, but utterly baseless theories, are confuted by the undeniable fact that, in all our great bays the supply of cod has been steadily diminishing, never increasing, and that several of them are almost depleted, so that the fishermen are driven to other distant places in search of fish. For such a decline there must be causes. It is our part to search out and remove these causes and use remedial measures."

These words are as fully as applicable to Canada as they are to Newfoundland. I have endeavoured in my work to find out the causes, and I have placed before you what I deem to be remedial measures.

Fishery Statistics.

The subject of fishery statistics lies at the root of the whole question of the scientific and practical successful administration of our fisheries. Legislation based

on incorrect or misleading information would bring discredit on the whole system, and the individual fisherman must be made to feel that all restrictive or other enactments are in pursuance of an enlightened policy, and that he himself is helping to shape that policy. To this end it is most desirable, from every point of view, to enlist in the work of the collection of fishery statistics the brightest and most intelligent of the fishermen in every port along the coast.

What we require is a report of the takes by individual boats on each fishing ground throughout the season; and thus to watch the increase or depletion, as the case may be, or the change in the kind or dimensions of the fish. One very common complaint this year among the fishermen was the small average size of the fish taken; and as diminution in average size is a sure forerunner of depletion of a fishery, we may accept the reported falling off in the shore fisheries as being very real. But in seeking the remedy our statistics, which are doubtless accurate enough in a commercial sense, fail to convey to us the kind of information required for the laying down of lines of policy in regard to the fisheries.

For the purpose of illustrating the scheme for obtaining fishery statistics which I propose I append hereto a miniature copy of a chart, somewhat such as would be given to a deep-sea fisherman or banker. It will be seen that the chart is all ruled off in squares, and that each square has a number by which it is identified. A copy of the chart would be given to each master of a fishing vessel who applied for it, and accompanying the chart would be a journal, giving a record of the ship's voyage and the amount, kind and description of fish taken each day, also the position of the ship described thus; *e.g.:* "24th June N. E. ¼ of 216–1,200 lbs. cod, large; 200 lbs. small; bait, used "herring." Such entries from day to day, when finally plotted on the chart, and with reports received from a large number of schooners, for many United States bankers would willingly act as volunteer reporters, as well as members our own Canadian fleet, would illustrate, month by month, the positions of the fish on the banks and would give subject matter for study in regard to their movements and life history.

For the shore fishery charts on a larger scale of smaller portions of the coast would be constructed on a similar plan, and then we should be able to follow each particular fishery on each individual ground, and would be able to deal intelligently with many matters which are now dealt with on assumptions, which continued investigation in the manner I have described may prove to have been either correct or erroneous.

There is one point to which I wish to give particular prominence, viz., that neither statistics of fisheries, meteorology, nor any other subject are of public usefulness unless placed in competent hands for examination and discussion. And I would urge upon your notice the advisability of forming some Board of specially qualified persons who could meet occasionally and discuss matters pertaining to the fisheries. On the Atlantic coast we have now eight Inspectors of Fisheries, some of them specially qualified to speak authoritatively on the subject of the fisheries, and I am of opinion that it would be very advantageous to the working of the Department if these gentlemen were to meet annually, or oftener, if required, to discuss matters relating to the fisheries; and if nothing further was gained than a mere exchange of views, such exchange would ensure uniformity of procedure in regard to the administration of the Fisheries Act. In these eight gentlemen we have, however, men who have taken up this work as a specialty, and their accumulated experience can best be made use of by causing them to meet and discuss what lines of policy it is desirable to adopt in reference to the fisheries.

Among the subjects which might be discused advantageously are :—

(1). The lobster regulations.

(2). Shall net fishing be regulated;

(3). Under what circumstances may trap-net licenses be granted, and should the fee be uniform for all trap-nets;

(4). The question of the prices by which the values of the fisheries product should be determined in the statistics as at present collected.

(5). The best method of obtaining fisheries statistics.

These and kindred subjects would take up a meeting extending over, probably about a week, and the knowledge that they were to be called on to take part in a discussion on such subjects would lead them to devote time to the special study of the points raised, would elevate them above the level of routine officers, and develop a spirit of painstaking investigation which could not be otherwise than of value to the Department. To these men, too, the summarised results of the proposed special statistics, and of the matter gathered by the Intelligence Bureau, should be submitted for discussion; and final reports (both majority and minority reports on all subjects, when opinion was not unanimous) should be submitted to the Minister.

Financial Aid to Fishermen.

In Canada the aid granted to fishermen is by way of direct payment of money to those who have been engaged a certain time in each year in the capture of deep-sea fish; but owing to the smallness of the sum, which each individual fisherman receives, the benefit to the men and their families is not great.

In the discussion of the shore fishery I have shown that the high average among the boatmen hardly reaches $200 for the support of the men and their families. As they say: "The fish are off shore now, and we lose much fishing, owing to bad weather." What is required is to relieve the shore fishery of the great pressure on it, by assisting those desirous of so doing to engage in the deep-sea or off shore fishery in small bankers. In Great Britain authority has been granted to the Commissioners of the Scottish fisheries to loan money to fishermen in certain districts for the purchase of boats, gear, &c., and to take a lien or mortgage thereon for the repayment of the money advanced. This Act was passed in 1886, and in the three seasons—1887, 1888 and 1889—upwards of $100,000 has been so loaned to the fishermen and a very considerable sum has already been repaid.

In the counties of Cape Breton, Inverness, Richmond, Victoria, Guysboro' and Halifax, in Prince Edward Island, and generally in the counties fronting on the Gulf of St. Lawrence, there are many boat fishermen who would club together if money could be advanced to them for the purchase of small staunch-decked vessels up to 25 tons burden, the money so advanced to form a lien on the vessel and the owner to keep the vessel insured and refund the purchase money in four equal annual instalments.

These small bankers are for fishing the banks near shore and in the Gulf of St. Lawrence, which are just too far off for the boat fishery; but inasmuch as these small vessels would be in, every week the fish could still be made, so as to class as "hard shore" instead of "bank" fish, and none should ever be salt burnt. The money might be placed at the disposal of Commissioners for the purpose of making the loans; and, without costing the country one cent beyond the expense of administering the scheme, the greatest possible good would be done to our people, and the shore fishery very considerably relieved; for not only would the benefit be to the fishermen in the summer's work, but the stimulus to ship-building would be quite marked, as I am convinced that if the plan was considered by the Government worthy of adoption applications for loans for a number of vessels would speedily be fyled. Under existing circumstances. our people have to compete in the world's markets against the heavily subsidised French fishermen, and against the United States fishermen, backed by unlimited capital, and with a protected home market for their entire catch. I would therefore urge on your notice this plan of assisting them to purchase a certain number of vessels to take the place of the boats now used.

The Fisheries Intelligence Bureau.

Proposals for establishing a Fisheries Intelligence Bureau having been approved of and the permission to utilize telegraphic communication for the purpose of gathering and disseminating information in regard to the fisheries, granted; the services of the following staff was secured:—Mr. Alex. Fraser, B.A., was appointed to act as clerk

in charge at Halifax, his duties being to receive all the messages, interpret them and enter the facts given on the map. He then had to prepare two synopses, one for publication in the press and a second somewhat abbreviated for transmission by telegraph to various stations where the bulletin was posted up for the use of fishermen.

Reporters.

E. D. Tremaine	Port Hood.
Wm. Grant	Mabou.
W. A. Dunn	Margaree.
S. AuCoin	Cheticamp.
J. A. Feltmate	White Head.
Capt. S. R. Griffin	Isaac's Harbour.
Geo. Rowlings, Fishery Officer	Musquodoboit.
W. M. Solomon, Fishery Officer	Lunenburg.
E. E. Letson	Port Medway.
John H. Dunlop	Liverpool.
Geo. Stalker	Lockeport.
Charles H. Bolman	Sand Point.
J. W. Taylor	Port La Tour.
J. A. D'Entremont	Pubnico.
Isaiah Thurber	Freeport.
J. M. Viet	Digby.
M. J. Foley	Souris.
Charles Owen	Georgetown.
D. McCaulay	St. Ann's.
A. J. Hamilton	North Sydney.
Wm. Brymer	L'Ardoise.
Remi Benoit	Arichat
D. Urquhart	St. Peter's
C. P. LeLacheur	West Arichat
J. C. Bourinot	Port Hawkesbury
P. O. Toole	Louisburg
David Murray	Port Mulgrave.
J. W. Young	Canso.
Miss A. Beck	Percé.
M. A. Carberry	Grand River.
Miss Laura Young	Paspebiac.
Miss Louise Blackhall	Caraquette.
W. Phillips	Escuminac
A. Hamon	Shippegan
John Hughes	Bloomfield
Wm. McDonald	Meat Cove.
E. B. Burke	Ingonish.
A. J. Clark	North Head Grand Manan.
Wellington Parker	Campobello.
J. Labourdais	Magdalen Islands.
E. M. Cross	Beaver Harbour.
W. C. Henly	Spry Bay.
F. L. Hatfield	Yarmouth.

In all forty-four reporters stationed along the coast line in actual touch with the fishermen and reporting daily by wire and some of them weekly by mail as well. These reporters received as an honorarium in recognition of their services, the sum of $15 each, and I desire to place on record my acknowledgements to these ladies and gentlemen for the careful and accurate reports which were sent in with such faithful regularity in most instances.

The instructions issued to the reporters were that each day a message was to be prepared and enciphered and handed in to the telegraph office about 6 p.m. and they thus reached the clerk in charge at Halifax between 8 and 9 in the evening and were at once discussed and the bulletin for the day issued.

As for the publication of the bulletins, they were posted at the telegraph offices at the following places: Canso, North Sydney, Lunenburg, Lockeport, Liverpool, Yarmouth, Shelburne, Escuminac, Shippegan, Caraquette, Paspebiac and Percé. Besides this they were furnished to the Halifax daily press and to the associated press for publication. The Halifax papers published the bulletins regularly, and so highly was the informatien prized by those interested in the fisheries, that I have been told of persons living in remote parts of New Brunswick subscribing to the Halifax papers in order to get the information. One of the first questions asked by a fishing captain when he lands is, "What does the bulletin say"? And I believe that no step ever taken by the Department has met more generally with the approval of the fishing community than has this establishment of the Fisheries Intelligence Bureau. It is, however, one of those systems which takes time and experience to obtain the best results, and one of the points which was not considered very important at first, proves to be one of the leading features of the scheme, viz., the distribution by telegraph of the information and the posting up of the Bulletins in a public place so that the fishermen can see it for themselves. Take for instance, the case of a vessel cruising off the west end of Prince Edward Island, she can run into Escuminac Light, send a boat ashore and see the bulletin, and in a quarter of an hour she has the whole story of yesterday's fishing throughout the coast. That I have been able to carry out this scheme at so small a cost has been due to the policy of enlightened liberality pursued by the managers of the Western Union and Great North-West Telegraph Companies and the Anglo-American Cable Company, who gave such a reduction in their rates as enabled the work to be done within the limits of the expenditure sanctioned.

The following are the amounts expended on this service during the past season :—

Salaries of 44 reporters	$630 00
Salary of clerk in charge	248 33
Telegraphy	437 79
Postage and sundry expenses	13 92
Total cost of Intelligence Bureau	$1,330 04

I should like, next year, to utilize the Government telegraph lines over which our messages are carried gratis, as Government business, for the dissemination as well as the collection of information, and to this end would have the daily bulletins sent to Anticosti, Magdalen Islands, Meat Cove and Ingonish, and if possible also to Georgetown, Souris, Alberton and Tignish, on Prince Edward Island, and Port Hood, C.B. These few additional stations would be of great value to the fishing community, as the information would always be fresh, and instead of going in and telegraphing to Halifax and waiting for reply, the bulletin would then be posted up for the fisherman to read.

In order to give these bulletins a distinctive character, I should like to have regular bulletin blanks printed and supplied to the telegraph offices were the bulletin is posted; suitable cheap frames might also be supplied, just as the Meteorological Office now supplies its stations with blanks and frames.

The full usefulness of the bureau during the past summer was somewhat marred by the late date at which its operations were commenced, inasmuch as it was July before the work got into full swing. I would respectfully suggest that operations should be commenced next spring on 1st May, and in order to do this the clerk in charge should be appointed about 15th April. The early part of the month of May is the time when the banking fleet are seeking herring bait, and of late years there has been frequently much

disappointment in the search for bait among both the Canadians and Americans, which the establishment of the bureau would have averted. To such an extent is this the case, that I regard the month of May as perhaps the month of the season in which the beneficial effects of the working of this system would be best exemplified.

It cannot be denied that in the working of the bureau, occasional disappointments have occurred owing to change in the conditions at a place between time of the issue of the report and the arrival of a fisherman who has perhaps sailed a couple of hundred miles on the strength of a bureau report. Such disappointments are occasionally unavoidable, and the only thing to do is to have the bureau news as recent as possible, trusting more to the telegraph than to the daily press for disseminating the information.

I attach hereto the report of Mr. A. Fraser on each separate fishery. It forms Appendix "B" to this report, and shows for the time the bureau was in operation, the movement of the various fishes and the character of the fishery as reported to the bureau.

Before closing this subject of my report, I would point out to you that in other countries money is spent freely for the purpose of giving information in regard to the fisheries by telegraph.

In Great Britain, for instance, the Scotish Fishery Commission have entered into arrangements with the Postmaster General whereby telegraphic communication has been extended to many remote points, the commission agreeing to make good any loss which may arise from the extensions, and during the season of 1889 they paid to the Postmaster General, on behalf of the fishermen, no less a sum than $11,169.71, nearly nine times over the total amount which our bureau has cost.

For the coming year I estimate the cost of the bureau as follows:—

Seven months' salary of clerk in charge	$ 350 00
Fifty reporters	750 00
Telegraphy	1,200 00
Unforeseen contingencies	200 00
Total expenditure proposed	$2,500 00

The expenditure on this bureau must not alone be regarded as valuable from the point of view of the fisherman; it is also of great value to me in directing the movements of the fishery protection cruisers. As the reporters keep the Central Bureau advised of the movements of foreign fishing vessels thus rendering the police patrol of our territorial waters much more efficient than it would be if dependent on the reports from our own vessels,

I think that this service may now be considered to have established itself in public favour, and as it is also of value as a police measure I would respectfully recommend that its operations be continued during the season of 1891.

Storm Signals for the Fishermen.

During the past season storm signals have been erected for the benefit of fishermen at Shippegan and Caraquette, on the New Brunswick coast. The masts have been erected at a minimum cost, and will be of great service to the fishermen at these places next season. As these storm signals are the only means by which the benefit of all our meteorological work can be conferred on the fishing community they should be erected at every port on the coast where there are a sufficient number of fishermen to warrant the expenditure.

For the coming season I would strongly recommend the following stations as places where storm signals would be of great benefit to fishermen.

Louisburg:—At this station there has been a storm signal in operation for years, but it had to be discontinued owing to the removal of the telegraph line; as this is now in the hands of the Telephone Company and in regular operation, the mast at this place, which I inspected this year and found in good condition, can be again used, and the only cost will be the renewal of the equipment and the payment of the salary to the agent, the same as formerly.

Tignish, P.E.I.:—This is the greatest boat harbour perhaps in the whole Gulf of St. Lawrence. Large numbers of the Tracadie and Caraquette fleet, who fish off the North Point, make this their shelter port during the week. Hence a storm signal would be of great value. This point can now be reached by telephone from Alberton.

Port Hood and Liscomb are also ports from which large fleets of boats go out to fish at great distances from land, and where storm signals would be of great value to fishermen; and at Paspebiac, in the Bay Chaleurs, those interested in the fisheries have asked me to secure for them the benefit of the system.

These four masts would cost about $300 to erect, and the subsequent charge on the Meteorological Service would be about $50 per station per annum, and I would respectfully urge on your notice the desirability of giving this aid to the fishermen at these ports.

Meteorological Work.

In my report of last year I pointed out that my experience on the coast had convinced me that the very greatest differences existed between the velocities of the wind on land and over the sea, and suggested that three wind stations should be established at points on the coast where the velocities observed would approximate more closely to those over the water

This proposal was approved, and during the season now closed, Inspector Payne, of the Meteorological Service, erected anemographs on Sambro Island, near Halifax, and at Low Point, near Sydney, C. B. An instrument was also put up on Sable Island, and in order to show the serious nature of the difference between the velocities I quote the following cases, comparing the coast stations with those which we previously had.

On 6th October, Sydney, old station 8 to 9 p.m ..	20	miles per hour.
do Low Point, new station, 8-9 p.m.	48	do
On 17th October, at 10 a.m. warnings issued from the Meteorological Office for a heavy gale.		
Halifax, old station only records.....	22	miles per hour.
Sable Island, New Station records.....	38	do
Sambro Island, new station, records	42	do
On 28th October at Halifax, Old Station from 5 a.m. to 11 a.m., highest velocity is	15	do
Sambro, new station, velocity all the time from	47-49	do
Sable Island, new station, do do	51-35	do
On 1st December, Halifax, old station, highest velocity.....	30	do
On 1st December, Sambro, new station, highest velocity	72	do

This was a very heavy gale, almost a hurricane, warned 10 a.m. 30th November, but Halifax, old station, showed little more than a strong breeze.

These new stations show the wind velocities which the sailor and the fisherman have to meet, and their value is already appreciated by the officers engaged in the issue of the forecasts. And as the position of the three stations is such that they form the angles of approximately an equilateral triangle, they are very advantageously situated for the purpose of making a determination of the wind velocities at sea in relation to barometric gradient.

Canadian Fishing Vessels.

I would again draw your attention to the difficulty which our police vessels continue to find in distinguishing, at any little distance, the difference between Canadian and United States fishing vessels.

In previous reports I have dealt with the subject fully, and can only add that increased experience confirms my opinion that it is in the highest degree advisable to adopt some specific mark or device visible at a distance, which will enable our force to readily distinguish between domestic and foreign fishing vessels.

I have the honour to be, Sir,

Your obedient servant,

ANDREW R. GORDON.

APPENDIX A.

BEING List of United States Fishing Vessels which visited the Port of Canso, N.S., during the Year 1890.

Dates of Arrivals.	Names of Vessels.	Ports of Registry.	Tons.	Men.	Whence Arrived.	If Licensed "L"; Unlicensed "U."	What in Port for.
1890.							
Jan. 16..	Lucy M. Dyer	Portland	78	7	Portland	U	Shelter, bound Nfld.
do 16..	Alice C. Jordan	Gloucester	81	7	Gloucester	U	do do
do 20..	Hereward	do	85	7	do	U	do do
do 23..	Herbert M. Rogers	do	74	6	do	U	do do
April 7..	Louise J. Kenny	do	155	18	Banks	U	Came in for license, left for Nfld
do 17..	Edward S. Eveleth	do	84	14	do	U	Repairs.
do 18..	Huntress	Eastport	74	4	Eastport	U	Shelter, bound Magdalens.
do 21..	Fanny W. Freeman	Gloucester	90	14	Gloucester	U	do do
do 21..	Abbie M. Deering	do	96	18	Banks	U	Came in for license, left for Nfld
do 22..	Eclipse	Eastport	44	3	Eastport	U	Shelter, bound Magdalens.
do 23..	William H. Wellington	Gloucester	81	16	Banks	U	Came in for license, left for Nfld
do 23..	Triton	do	67	14	do	U	do do
do 24..	H. B. Griffin	do	117	16	do	U	do do
do 24..	Laura Sayward	do	64	12	do	U	do
do 24..	Lillian A. Allen	Portland	106	16	do	U	do do
do 24..	Willie M. Stevens	Gloucester	71	16	do	U	do do
do 24..	M. H. Perkins	do	72	14	do	U	do do
do 24..	Edith B. Coombs	Lamoine	114	18	Lamoine	U	do do
do 24..	Veata	Gloucester	75	14	Gloucester	U	do do
do 26..	Mist	do	68	14	Banks	U	do and obt'd license
do 26..	Wm. H. Jordan	do	86	15	do	U	Came in for license but refused because not inc. Nfld.
do 28..	Susie Hooper	do	73	14	Gloucester	U	do do
do 28..	Samuel R. Crane	do	74	14	do	U	do do
do 30..	Thetis	do	91	16	Banks	U	In for and obtained license.
May 1..	Herbert M. Rogers	do	73	13	do	U	do do
do 1..	John W. Campbell	do	79	14	Gloucester	U	Shelter and repairs.
do 1..	Martha A. Bradley	do	72	14	do	U	In for and obtained license.
do 2..	Joseph B. Maguire	do	88	16	do	U	Shelter.
do 3..	Ellen Lincoln	Portland	92	16	Banks	U	In for and obtained license.
do 5..	William M. Gaffney	Gloucester	70	14	Gloucester	U	Shelter.
do 8..	Olive Robinson	Portland	61	9	Portland	U	do
do 9..	Laura Sayward	Gloucester	64	9	Banks	U	In for and obtained license.
do 10..	Edith Whalen	do	78	16	do	U	Wood and water.
do 10..	Electa A. Eaton	do	73	14	Gloucester	U	In for and obtained license.
do 10..	Marguerite	do	103	18	Banks	U	Looking for men astray on Bks
do 10..	Centennial	do	110	18	Gloucester	U	Shelter
do 10..	Emma M. Dyer	do	77	16	do	U	do
do 10..	Carrie E. Parsons	do	80	10	do	U	In for and obtained license.
do 10..	David A. Story	do	86	16	Banks	U	Shelter.
do 10..	Edgar S. Foster	Beverly	94	16	do	U	do
do 10..	John L. Nickerson	Gloucester	118	18	do	U	do
do 10..	Dora A. Lawson	do	119	18	do	U	do
do 10..	George W. Pierce	Portland	59	14	Portland	U	In for and obtained license.
do 10..	Bertha May	do	75	14	Banks	U	Wood, water and repairs.
May 13..	Grace L. Fears	Gloucester	84	16	do	U	Wood, water and repairs.
do 13..	Louise J. Kenny	do	155	13	do	U	do do
do 15..	Margaret Mather	do	91	16	do	U	In for and obtained license.
do 15..	Julia E. Whalen	Boston	96	18	do	U	Shelter.

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Continued.*

Dates of Arrivals.	Names of Vessels.	Ports of Registry.	Tons.	Men.	Whence Arrived.	If Licensed, "L;" Unlicensed, "U."	What in Port for.
1890.							
May 15..	John S. Predden.....	Gloucester..	88	16	Banks	U	Wood and water.
do 16..	Reporter	do ..	79	16	do	U	Wood, water and repairs.
do 16..	A. T. Gifford.....	do ..	81	14	Gloucester..	U	In for and obtained license.
do 16..	Golden Hind.	do ..	70	14	do ..	U	Shelter.
do 19..	Thomas F. Bayard.....	do ..	95	16	Banks.....	U	Look'g for men astray on B'ks.
do 20..	H. B. Griffin.....	do ..	111	16	do	U	do do
do 20..	Gertie E. Foster.....	do ..	83	16	do	U	Shelter.
do 20..	William H. Jordan.....	do ..	86	16	do	U	In for and obtained license.
do 20..	Carrie and Annie.....	Boston.	90	16	Gloucester..	L	Bait and ice.
do 20..	Monitor	Gloucester..	104	16	do ..	U	In for and obtained license.
do 20..	Lizzie J. Greenleaf.....	do ..	88	16	do ..	U	do do
do 21..	Gladstone	do ..	97	16	do ..	U	do do
do 22..	A. T. Gifford.....	do ..	81	14	Souris, P.E.I	L	To land one of crew sick.
do 22..	Mist	do ..	68	14	Banks.....	L	Bait and ice.
do 24..	Eclipse	Eastport.....	44	4	Magdalens..	U	Medical treatment to one of crew.
do 29..	Fredonia	Gloucester..	109	18	Gloucester..	U	Shelter, mackerel seining.
do 30..	Laura Sayward.....	do ..	64	12	Banks.....	L	Bait and ice.
do 30..	Herbert M. Rogers.....	do ..	73	14	do	L	do
do 30..	Lizzie Griffin..	do ..	100	16	Gloucester..	U	In for and obtained license.
June 2..	Masconomo	do ..	91	16	do ..	U	do do
do 2..	Richard Lester.....	do ..	69	14	do ..	U	do do
do 2..	Electa A. Eaton	do ..	73	12	Banks	L	Bait and ice.
do 2..	Nellie G. Thurston.....	do ..	81	14	Gloucester..	U	In for and obtained license.
do 2..	Porter S. Roberts.....	do ..	72	14	do ..	U	do do
do 2..	Blanche	do ..	79	12	do ..	L	Bait and ice, and ship men.
do 2..	Marsala	do ..	76	14	do ..	L	do
do 3..	Nellie M. Stevens.....	do ..	76	16	Banks.....	U	In for and obtained license.
do 4..	Procyon	do ..	107	16	do	U	Shelter.
do 4..	D. D. Winchester.....	do ..	79	14	do	U	In for and obtained license.
do 5..	Sarah B. Putnam..	Beverley....	76	12	do	L	Bait and ice.
do 5..	Henry Wilson.....	Gloucester..	88	16	do	U	In for and obtained license.
do 5..	Ambrose H. Knight.....	do ..	87	14	Mack. fish'g.	U	Shelter.
do 5..	Laura Belle.....	Portland...	77	15	do ..	U	do
do 7..	Herald of the Morning..	Gloucester..	68	14	do ..	U	do
do 7..	Alice C. Jordan.....	do ..	81	15	do ..	U	do
do 9..	Lillian A. Allen.....	Portland...	106	16	Banks.....	L	Bait and ice.
do 9..	Maggie E. Wells.....	Gloucester..	80	14	Gloucester..	U	In for and obtained license.
do 9..	Edith Rowe	do ..	80	17	Mack. fish'g,	U	Shelter.
do 9	Julia E. Whalen.....	Boston	96	18	Banks	U	do
do 9..	William M. Gaffney....	Gloucester..	70	12	do	U	do
do 9..	Caroline Vooght	do ..	79	16	Mack. fish'g.	U	do
do 14..	Lottie S. Haskins.....	do ..	55	13	do ..	U	do
do 16..	Lizzie M. Centre.....	do ..	89	14	do ..	U	do
do 16..	Marsala	do ..	76	14	Banks.....	L	Bait and ice.
do 17..	William H. Wellington..	do ..	81	17	do	U	In for and obtained license.
do 17..	Laura Belle	Portland...	78	15	Mack. fish'g.	U	Shelter.
do 17..	M. L. Wetherell.....	Gloucester..	65	15	do ..	U	do
do 18..	Davy Crockett.....	do ..	80	15	do ..	U	do
do 18..	E. A. Williams.....	Boston.....	35	5	do ..	U	do
do 20..	Mabel W. Woolford.....	Gloucester..	104	18	Gloucester..	U	Shelter.
do 20..	Davy Crocket.....	do ..	80	16	Mack. fish'g.	U	do
do 20..	Dora A. Lawson	do ..	119	18	Banks.....	U	do
do 20..	Ambrose H. Knight	do ..	87	16	Mack. fish'g.	U	do
do 20..	Herbert M. Rogers.....	do ..	73	14	Banks.....	L	Bait and ice.
do 20..	Admiral.....	do ..	73	13	Gloucester.	U	In for and obtained license.
do 20..	Mary J. Wells.....	do .	86	14	do ..	U	do do
do 20..	Abby F. Morine..... ...	do ..	77	14	do ..	U	do do
do 20..	A. T. Gifford..	do ..	81	14	do ..	L	Bait and ice.
do 20..	Lizzie J. Greenleaf.....	do ..	88	16	do ..	L	do
do 21..	Porter S. Roberts..... .	do ..	72	14	Banks.....	L	do

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Continued.*

Dates of Arrivals.	Names of Vessels.	Port of Registry.	Tons.	Men.	Whence Arrived.	If Licensed "L"; Unlicensed "U."	What in Port for.
1890.							
June 24..	Amy Hanson	Boston	108	16	Banks	L	Bait and ice.
do 24..	Golden Hind	Gloucester	70	14	Gloucester	U	In for and obtained license.
do 24..	Hattie L. Newman	do	93	16	Banks	U	do do
do 25..	Henry Wilson	do	88	14	do	L	Bait and ice.
do 26..	Procyon	do	107	16	Gloucester	L	do
do 26..	Carrie W. Babson	do	85	18	do	L	do
do 27..	Monitor	do	104	14	do	L	do
do 27..	Ada M. Hall	do	95	14	do	U	In for and obtained license.
do 30..	Ellen M. Adams	do	85	16	do	U	do do
do 30..	Grace L. Fears	do	84	16	do	U	do do
July 4..	Gladstone	do	97	16	do	L	Bait and ice.
do 5..	Henry Wilson	do	88	15	Banks	L	Seeking bait.
do 7..	Hustler	do	92	16	do	L	Bait and ice.
do 10..	Willie M. Stevens	do	76	16	Gloucester	L	do
do 10..	Blanche	do	79	14	do	L	do
do 10..	Gov. Butler	do	87	17	Mack. fish'g.	U	Shelter.
do 12..	Nellie N. Rowe	do	79	16	do	U	do
do 12..	Nellie G. Thurston	do	81	14	Banks	L	Bait and ice.
do 12..	Ellen Lincoln	Portland	92	15	Mack. fish'g.	L	Shelter.
do 12..	Lizzie Griffin	Gloucester	100	16	Gloucester	L	Bait and ice.
do 12..	Sarah B. Putnam	Beverly	76	12	Banks	L	do
do 14..	Nellie N. Rowe	Gloucester	79	16	Mack. fish'g.	U	Shelter.
do 14..	Dora A. Lawson	do	119	18	Banks	L	Bait and ice.
do 15..	Laura H. Sayward	do	64	12	Gloucester	L	do
do 15..	D. D. Winchester	do	79	14	do	L	do
do 15..	Abby M. Deering	do	96	16	do	U	Shelter.
do 16..	Horace B. Parker	do	93	18	do	L	Bait and ice.
do 16..	Herbert M. Rogers	do	73	14	Banks	L	Shelter.
do 16..	Mystic	do	79	16	Gloucester	L	Bait and ice.
do 16..	Bessie M. Wells	do	95	16	do	L	do
do 16..	Lizzie M. Stanwood	do	100	16	do	L	do
do 17..	Willie M. Stevens	do	76	14	Banks	L	do
do 17..	Henry Wilson	do	88	16	do	L	do
do 18..	Carrie E. Parsons	do	80	12	Gloucester	L	do
do 18..	Rushlight	do	63	13	do	U	Shelter.
do 19..	Susan L. Hodge	do	77	16	do	U	In for and obtained license.
do 19..	Lillian A. Allen	Portland	106	16	Portland	L	Coming Bay struck and became wreck.
do 19..	Marguerite	Gloucester	103	18	Gloucester	U	Shelter.
do 19..	Lizzie J. Greenleaf	do	88	16	do	L	Bait and ice.
do 21..	Edward Trevoy	do	88	16	Mack. fish'g.	U	Shelter.
do 22..	Admiral	do	73	13	Banks	L	Bait and ice.
do 22..	Hustler	do	90	14	do	L	do
July 22..	Triton	do	67	14	Banks	L	do
do 23..	Hustler	do	90	16	Seeking bait.	L	Shelter, bound to Banks.
do 23..	Mist	do	68	14	Gloucester	L	Bait and ice, and to ship man.
do 23..	Winona	do	103	16	do	L	Bait and ice.
do 23..	Reub. L. Nickerson	do	92	14	Banks	U	Shelter.
do 23..	Fanny W. Freeman	do	90	14	Gloucester	L	Bait and ice.
do 24..	Thomas F. Bayard	do	95	16	do	U	In for and obtained license.
do 25..	Reporter	do	79	16	Banks	U	In for shelter.
do 26..	A. T. Gifford	do	81	14	Gloucester	L	In for bait and ice.
do 26..	Caroline Vooght	Booth Bay	79	5	Pictou	U	Shelter.
do 28..	Emma E. Wetherell	Gloucester	101	16	Gloucester	L	Bait and ice.
do 31..	Andrew Burnham	do	86	15	Mack. fish'g.	U	Shelter.
do 31..	Laura Belle	do	77	16	do	U	do
do 31..	Gertie Evelyn	do	81	14	Gloucester	L	Bait and ice.
do 31..	Gracie C. Young	do	83	16	do	L	do
do 31..	Minnesota	do	90	16	Banks	U	Shelter and water.
do 31..	Emma W. Brown	do	74	16	Gloucester	U	do
Aug. 1..	Grace L. Fears	do	84	16	do	L	Bait and ice.

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Continued.*

Dates of Arrivals.	Names of Vessels.	Ports of Registry.	Tons.	Men.	Whence Arrived.	If Licensed "L"; Unlicensed "U."	What in Port for.
1890.							
Aug. 1..	Flora Dilloway	Gloucester..	77	12	Gloucester..	L	Bait and ice.
do 2..	Mystic	do ..	79	14	Banks	L	Ice.
do 4..	Procyon	do ..	107	16	do	L	Bait and ice.
do 4..	Flora Dilloway	do ..	77	14	Seeking bait.	L	Shelter, bound to Banks.
do 4..	Monitor	do ..	104	16	Gloucester..	L	Bait and ice.
do 4..	Porter S. Roberts	do ..	72	14	Banks	L	do
do 4..	Samuel R. Crane	do ..	74	14	do	L	do
do 6..	Hustler	do ..	92	16	do	L	do
do 6..	Sea Fox	do ..	105	18	do	L	do
do 7..	Mary J. Wills	do ..	86	14	Gloucester..	L	do
do 7..	Herbert M. Rogers	do ..	73	14	Seeking bait.	L	Shelter, bound to Banks.
do 7..	Golden Hind	do ..	70	13	Gloucester..	L	Bait and ice.
do 7..	Masconomo	do ..	91	16	do	L	do
do 8..	Admiral	do ..	81	14	Banks	L	do
do 8..	Marsala	do ..	76	14	do	L	do
do 9..	Carl Schurz	do ..	69	14	do	U	Shelter, bound home.
do 11..	Sarah B. Putnam	Beverly	76	14	do	L	Bait and ice.
do 11..	John D. Long	Gloucester..	63	13	Gloucester..	L	do
do 13..	Gladstone	do ..	97	16	do	L	do
do 13..	Emma E. Wetherell	Boston	101	16	Banks	L	do
do 14..	Reub. L. Nickerson	Gloucester..	92	14	do	U	Shelter.
do 14..	Amy Hanson	Boston	108	16	do	L	Bait and ice.
do 14..	Lizzie Smith	Gloucester..	73	14	Gloucester..	L	do
do 15..	Grace L. Fears	do ..	84	16	Banks	L	do
do 16..	William H. Wellington..	do ..	81	16	do	L	do
do 18..	Triton	do ..	67	14	do	L	do
do 18..	Mystic	do ..	78	16	Gloucester..	L	do
do 19..	M. H. Perkins	do ..	72	14	do	U	Shelter.
do 19..	Carrie W. Babson	do ..	86	18	Banks	L	Bait and ice.
do 20..	Carrie and Annie	Boston	90	16	do	L	Anchor and ship stores.
Aug. 20..	J. H. Carey	Gloucester..	95	16	Banks	L	Bait and ice.
do 20..	Hattie Maud	do ..	86	16	do	U	Shelter.
do 20..	Henry Wilson	do ..	88	16	Seeking bait	L	Shelter, bound to Banks.
do 20..	Mary J. Wells	do ..	80	16	Gloucester..	L	Bait and ice.
do 20..	Flora Dilloway	do ..	77	14	Banks	L	do
do 21..	Mascot	do ..	77	14	North Bay..	U	Shelter.
do 22..	Hustler	do ..	92	14	Banks	L	Bait and ice.
do 22..	Gertie E. Foster	do ..	83	14	Gloucester..	U	In for shelter.
do 22..	Centennial	do ..	110	16	do	U	Shelter.
do 22..	Northern Eagle	do ..	65	12	Mack. fish'g.	U	do
do 23..	Gracie C. Young	do ..	83	16	Gloucester..	L	Bait and ice.
do 24..	Northern Eagle	do ..	65	12	Mack. fish'g.	U	Shelter.
do 24..	Eliza B. Campbell	do ..	95	16	Gloucester.	L	Bait and ice.
do 25..	Lizzie B. Griffin	do ..	100	16	do	L	do
do 25..	Mystic	do ..	78	16	do	L	do
do 25..	Fanny Freeman	do ..	90	15	do	L	do
do 25..	Lizzie J. Greenleaf	do ..	88	16	do	L	do
do 25..	A. T. Gifford	do ..	81	14	do	L	do
do 25..	Saml. R. Crane	do ..	74	14	do	L	do
do 25..	D. D. Winchester	do ..	79	14	do	L	do
do 27..	Nellie M. Davis	do ..	89	14	do	L	do
do 27..	Fannie A. Sparling	do ..	81	14	do	L	do
do 27..	Chas. H. Boynton	do ..	71	14	do	L	do
do 29..	Centennial	do ..	110	16	do	L	In for and obtained license.
do 29..	Thetis	do ..	91	16	do	L	Bait and ice.
do 29..	John W. Plummer	Portland ..	95	16	do	U	Shelter.
Sept. 1..	Amy Hanson	Boston	108	16	do	L	Stores, water; bound home.
do 8..	Centennial	Gloucester..	110	16	Seeking bait	L	Ice.
do 9..	Rigel	do ..	107	16	Banks	L	Bait and ice.
do 10..	H. B. Griffin	do ..	107	14	do	U	Repairs, water
do 10..	M. S. Ayer	do ..	76	14	do	L	Bait and ice.
do 13..	Dido	do ..	77	14	do	L	do

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Concluded.*

Dates of Arrivals.	Names of Vessels.	Ports of Registry.	Tons.	Men.	Whence Arrived.	If Licensed "L"; Unlicensed "U."	What in Port for
1890.							
Sept. 13..	Henry Wilson	Gloucester..	88	14	Banks	L	Bait and ice.
do 13..	William H. Wellington..	do ..	81	14	Gloucester..	L	do
do 15..	Joseph B. Maguire	do ..	88	16	do ..	U	Shelter.
do 16..	Gertie May	Portland ...	97	14	Banks	U	Repairs and wait spare suit sails from home.
do 16..	J. H. Carey	Gloucester..	95	16	Gloucester..	L	Bait and ice.
do 22..	Abby M. Deering	do ..	96	14	Banks	L	do
do 22..	Hattie Maud	Portland ...	86	16	do	L	do
do 22..	Grace L. Fears	Gloucester..	84	16	do	L	Repairs and wait spare suit sails from home.
do 23..	Maggie E. Wells	do ..	80	14	Gloucester..	L	Bait and ice.
do 24..	Everett Pierce	do ..	64	10	Banks	U	Shelter and repairs.
do 24..	Hattie L. Newman	do ..	93	16	Gloucester..	L	Bait and ice.
do 24..	Procyon	do ..	107	18	do ..	L	do
do 25..	Lizzie M. Stanwood	do ..	100	16	do ..	L	do
do 25..	Winona	do ..	103	16	do ..	L	do
do 26..	Chas. H. Boynton	do ..	71	14	Banks	L	do
do 27 .	Ellen Lincoln	Portland ...	92	17	Mack. fish'g.	L	Shelter.
do 27..	Blanche	Gloucester..	79	14	Gloucester..	L	Bait and ice.
do 29..	Triton	do ..	67	14	Banks	L	do
Oct. 1..	Epes Tarr	do ..	66	14	do	U	Shelter.
do 1..	Bessie M. Wells	do ..	92	16	Gloucester..	L	Bait and ice.
do 2..	Enola C.	do ..	62	16	Mack. fish'g.	U	Shelter.
do 6..	Ralph E. Eaton	do ..	65	13	do	U	do
do 6..	Chas. S. Tappan	do ..	68	12	do	U	do
do 6..	Hustler	do ..	92	15	Banks	L	Bait and ice.
do 6..	Arthur Clifford	Provincet'n.	80	13	do	U	Wood and water.
do 7..	Dido	Gloucester..	77	15	do	L	Bait and ice.
do 13..	A. T. Gifford	do ..	81	14	Gloucester..	L	do
do 13..	D. A. Wilson	Beverly....	86	14	Banks	L	do
do 13..	Procyon	Gloucester..	107	18	Gloucester..	L	do
do 13..	John W. Plummer	Portland....	95	16	Banks	U	Shelter.
do 17..	Grace L. Fears	Gloucester..	84	16	do	L	Bait and ice.
do 20..	Golden Hind	do ..	70	14	Gloucester..	L	do
do 20..	William H. Foye	do ..	67	12	do ..	U	Shelter.
do 22..	Sunshine	do ..	63	12	Mack. fish'g.	U	do
do 23..	Mabel W. Woolford	do ..	104	18	Banks	L	Bait and ice.
do 24..	Ambrose H. Knight	do ..	87	12	Mack. fish'g.	U	Shelter.
do 25..	Golden Hind	do ..	70	13	Seeking bait	L	do
do 25..	W. L. Wetherell	do ..	65	15	Mack. fish'g.	U	do
do 27..	Golden Hind	do ..	70	13	Banks	L	do
do 31..	Annie C. Hall	do ..	84	13	do	L	Bait and ice.
Nov. 1..	Senator Morgan	do ..	86	17	Mack. fish'g.	U	Shelter.
do 3..	Martha and Susan	do ..	67	13	Banks	U	Wood and water.
do 5..	Maggie E. Wells	do ..	80	14	Gloucester..	L	Bait and ice.
do 5..	Hustler	do ..	92	16	Banks	L	do
do 6..	John S. McQuin	do ..	77	14	Mack. fish'g.	U	Shelter.
do 7..	Minnesota	do ..	90	16	Banks	U	Shelter and repairs.
do 7..	Dora A. Lawson	do ..	119	18	do	L	Shelter and supplies.
do 7..	Marion Grimes	do ..	58	15	Mack. fish'g.	U	
do 8..	Flora Dilloway	do ..	77	14	Banks	L	Bait and ice.
do 8..	Centennial	do ..	110	16	do	L	do
do 8..	Carrie and Annie	Boston	90	16	do	L	do
do 13..	Golden Hind	Gloucester..	70	14	do	L	do
do 13..	Henry Wilson	do ..	88	16	do	L	do
do 13..	Mabel W. Woolford	do ..	104	18	do	L	Bait & ice, repairs & stores.
do 17..	Alert	do ..	87	16	do	U	Shelter and repairs.
do 17..	Lizzie M. Centre	do ..	77	16	Mack. fish'g.	U	Shelter.
do 17..	John W. Plumer	Portland....	75	16	Banks	U	do
do 24..	Carrie and Annie	Boston	90	16	do	L	Shelter, bound home.
do 25..	A. E. Whyland	Gloucester..	123	8	Gloucester..	U	Shelter, bound Nfld. for herring

APPENDIX "B."

REPORT BY MR. ALEX. FRASER, B. A., CLERK IN CHARGE OF THE FISHERIES INTELLIGENCE BUREAU, WITH HEADQUARTERS AT HALIFAX, N. S., FOR THE SEASON OF 1890.

FISHERIES FROM 24TH JUNE TO 31ST OCTOBER, 1890.

HERRING.

Quebec.

Percé, P. Q.—Very plentiful outside from 14th to 27th August, and good catches occasionally. No reports since.

Grand River.—Fair catches 23rd to 28th July and 1st to 7th August.

Paspebiac.—Fair 1st to 2nd August, and good 7th to 14th.

Prince Edward Island.

Malpeque.—Schooling 5th July.

Panmure Island.—Struck in 30th June.

Cape Breton.

Port Hood and Mabou.—None at the former in June, but a few good catches at the latter. Fair at both places during the first part of July, none at either in August, but fair at both about 17th to 20th Sept. A very good haul at the former 3rd and 7th October, 150 barrels each day. Margaree averaged about the same as Mabou.

Cheticamp.—Very few reports.

Meat Cove and Ingonish.—A few good catches last part of June but no others reported.

St. Ann's.—Good catches from June 24th to July 18th.

North Sydney.—Struck in four miles off on 27th June and on 2nd July. Struck in all along the shore. 22nd July struck in at Mira Bay. Until the end of the month good catches were made at Sydney. After this no reports.

L'Ardoise.—Catch poor all June, average catch fair all July. From 28th July to 7th August the catch was very good. No reports from that date till 6th September, which said that during that week herring struck in, but few taken as they were not looked for, it being very unusual at that time of the year.

Arichat.—Good catches during June and July and first and last weeks of August. Fair 1st to 22nd September, when they struck off. Struck in again on the 29th and continued fair until about the 8th of October.

St. Peter's.—Fair June and first part of July. 29th July very good but no reports again until 3rd September, when the catch was good. 4th to 11th September poor, none since.

Nova Scotia.

Canso.—Very poor until August, when the catch was fair from the 1st to 7th. The average catch was very good from 1st to 22nd September, the best of the season being made in the vicinity of the 15th. In October the scarcity has been unprecedented.

White Head.—Fair last of June and nearly all of July, and 1st to 18th August, also catch very good 1st to 11th September. Good about the last of October.

Spry Bay.—Good 1st to 4th September. None 4th to 8th. Fair 8th to 11th.

Musquodoboit Harbour.—Reports very few.

Lunenburg.—Very scarce until 3rd September when they struck in all along the shore from the 4th to 11th; the catch was very good. On the 12th they struck off, but struck in at Mud Island; a few remained, however, until the 20th, when they all disappeared. They returned on 29th and continued very plentiful until 11th October.

Port Medway.—Few good catches made during the season. The dates of the strikes were 11th July, 24th September.

Lockeport.—Fair 24th June to 1st July. The average catch during the whole month of August was good, and 1st to 8th September very good; no reports worthy of mention since.

Sandy Point.—Good catches of fat herring during the latter part of June. Slacked off then but struck in again 4th July, they then were interfered with by dogfish and were kept off until 1st August, when the dogfish struck off. The herring then struck in, and for some time about 900 per boat were taken. They seemed to continue plentiful until the 24th September.

Port LaTour.—Good in June, very good about 24th July, and good 7th August to 11th September, when they slacked off. Struck in again 29th September, and fair catches were made off and on until 25th October.

Yarmouth.—Struck in 26th July. No other report.

John's Island and Pubnico.—Struck in on 1st September, and very good catches were made until the 10th.

Freeport:—Struck in 17th of July and struck off the 19th.

New Brunswick.

Grand Manan.—Sardine herring reported abundant during the whole season, especially in July. Net herring fair.

Campobello.—Sardines very plentiful, and net herring fair on the average during the whole season. The strikes were: 1st July, sardines; 28th July, sardines; 16th August, net. In September, from the 4th to the 11th, fishing of all kinds was the best known for years. The fisheries at Beaver Harbour have done much the same as Campobello. Large herring struck in there on 7th October. After this the fisheries began to decline.

SQUID.

Quebec.

Percé.—Struck in 3rd September. Fair quantity 8th and 9th September, and very plentiful 13th; also very plentiful 3rd October.

Grand River.—Very plentiful 3rd October.

Paspebiac.—Small quantity 3rd October.

Cape Breton.

Port Hood.—Good supply 20th September and 25th October.

Margaree.—Fair supply 21st July.

Meat Cove.—Schooling north 21st July, fair supply 24th September.

Ingonish.—Struck in the 8th July. Good supply on 28th August. Struck in 11th October.

Arichat.—Struck in 18th July.

Sydney.—Struck in 13th October.

Nova Scotia.

Crow Harbour.—Good supply from 30th June to 1st August.

Canso.—Fair 1st July. Good 24th July, better 30th July. 1st to 15th September good supply.

Spry Bay.—Very good quantity 22nd July.

Lunenburg.—Fair 21st July, large schools 29th July.

Campbello.—Fair supply 21st and 29th July.

MACKEREL.

The most northern stations at which mackerel of any note have been reported during the season is Point Escuminac, N. B. Here mackerel struck in on 25th June, when about 100 were hooked. A few were taken each day until 8th July, when the catch was good. On the following day they struck off, but returned on the 10th, and a few were taken pretty much every day until 13th September, when the fishing season there closed. The best catches of the season were made from 4th to 11th September.

Prince Edward Island.

About the first reports received indicated that the mackerel fishery was doing well on the north of the Island from Egmont Bay round to Alberton the mackerel being of good size. Towards the latter end of July and up to the 14th August, the best catches of the season were made in this vicinity (the north), 500 and 1,000 per boat being hooked, excepting on the 25th August, when the hookers averaged 2,000 per boat at Miminegash, Nail Pond, Tignish, Kildare and Alberton. From this time until the end of the season the fishery was poor. The reports from Malpeque show that the catch in that vicinity was on the average fair.

On the south side of the Island no mackerel reported at Souris in June, reported schooling there 5th July, after which the catch was good for a few days, but again slacked off. On 21st July reported schooling again after which the catch was better and continued very good until about 10th August, after which it was very poor during the greater part of the remainder of the season. At Lakeville the catch was good from 9th to 15th September. In the vicinity of Georgetown the state of the mackerel fishery has been about the same as that at Souris. A few struck in at Boughton Island on 30th June, and good catches were being made quite regularly up to the 10th August. Schools reported there 7th, 21st and 31st July. hookers did well at Grand River, P. E. I., from 20th September to 3rd October, after which time very few mackerel were taken on the south of the Island.

The mackerel on the south kept well inshore all season, and gave the seiners no chance. Some late reports say that no schools appeared on the south until 29th July, and that those reported before were small herring and mackerel mixed together

Cape Breton.

First reports of mackerel at Port Hood and Mabou were about the 1st of July, about which time fair catches were being made. Very few reported at either of those places since that. About 20th September, fair catches were made at Port Hood and a few large fat ones struck in 29th October, which was no doubt the beginning of the fall school. At Margaree the first school reported was 31st July, the since then it is reported that they were plentiful, but yet the catch was on the average small.

Very few reports from Cheticamp.

Meat Cove.—A few were taken here during the first half of August and 5th to 20th September.

Ingonish.—A few tinkers, August best about the 11th.

St. Ann's.—None reported.

North Sydney.—Began to show 14th August, but few reported after that. Struck in again on 18th October.

L'Ardois.—A few taken now and then in June, July and August. Schooling 9th. August

Arichat.—Catch on the average fair, best reports being for the week ending 25th July, schooling 9th August, good catch about 22nd September, and fair last week of October.

St. Peters.—Some mackerel mixed with herring last part of June, struck in alone 31st July. The best catches were made last part of September, the catches being good almost every day from the 15th to the 29th.

Nova Scotia.

Bayfield.—1,000 taken in nets 25th June, and fair catches from that on to the 30th, when 5,000 were taken. In July the catch was fair.

Canso.—Few reports; a few taken about 19th September; a few large fat ones struck in 24th October, which likely was the first appearance of the fall school.

Spry Bay.—None reported.

Musquodoboit Harbour.—None reported.

Lunenburg—A few taken from 24th June until the first week of July, when they became very plentiful and continued so until the 29th, when they struck off. They struck in again the 8th August, and were schooling in the harbour until the 14th, when they became much scattered by the large schools of squid, and again struck off. They appeared again on the 26th, but struck off again on the 27th. A few remained and were taken in small quantities until 20th September, when all struck off. They appeared again schooling on the 24th, and good catches were made until the end of the month. The catch was reported fair during the first week of October, but after that none reported.

Port Medway.—Mackerel struck in four miles off on 25th June, and a few were taken during the remainder of the month and up to 11th July, when they struck in in larger quantities, schooling on the 19th, and continued very plentiful until about the end of the first week in August. After this reports were few until the first week of October during which a few were taken.

Sand Point.—Very few reports, reported schooling 9th August.

Port La Tour.—Very few reports, schooling 11th and 12th July.

Lobster Bay.—Schooling and good catches pretty much all the time from 12th July to the end of the season.

St. Mary's Bay.—Very plentiful during the whole month of September, after that tinkers were still plentiful but were very wild, being very much frightened by the seines. A great many were seined in September.

Digby.—None reported by regular correspondent but I heard from other sources that some good catches were made in Digby Neck.

Pubnico and St. John Island.—Very good catches made during July, August and September.

New Brunswick.

Campobello, N.B.—Mackerel (small) taken in good quantities in this vicinity from middle of August to middle of September, the best takes for years having been made from 4th to 11th September.

COD, HAKE AND HADDOCK

Quebec.

Percé.—From the 25th of July to the 30th the catch of cod was on the average poor. Very good on the 30th. During the month of August when there was any fishing it was poor. About the 5th September, there was a fair catch of cod and haddock; on the 8th and 9th cod fair and good to the 13th; from that out the catch averaged fair. The fishermen reported cod plentiful, but bait was, as a rule, very scarce, and the weather very rough.

Grand River.—Here very little was done inshore during the season, but the bankers, as a rule, made fairly remunerative trips.

Paspebiac.—This was the best station in the north for cod. When bait could be got and the weather any ways favourable, a very good catch could be made. Very good hauls were made here and there in July, August, September and October.

Caraquette and Shippegan.—The fisheries here this season are reported a total failure. In September the fishermen got discouraged and left their own shores for those of Prince Edward Island, where they did much better.

Escuminac.—A few cod were being taken from day to day during the season from 1st July to 13th September. The best fishing of the season was done from 4th to the 11th September.

Prince Edward Island.

Miminegash.—Hake fishing good about the 13th and 14th of August.

Malpeque.—Hake struck in the 14th August, and fair catches of cod were being made during the first week of September and about the first two or three days of October.

Souris.—A few fair catches of cod in June, but none noted since. Hake struck in all along the shore from Souris to East Point, on 24th July, and continued plentiful until 3rd October, very good hauls having been made about 25th July, 1st to 7th August, and 20th September to 3rd October.

Georgetown. A few fair catches made in June and about the 1st July.

Cape Breton.

Port Hood.—During the month of June the cod and haddock fisheries were on the average good. Also during July, until the 17th, when they fell to poor. On that date hake struck in and continued very good, while cod and haddock continued poor until the 25th, when all three became fair and remained so until about the 11th August, when all the fisheries became very dull and remained so until 16th September. Both bait and fish greatly improved, and cod, hake and haddock were taken in good quantities pretty much every day during the remainder of the month. The last week of the month, however, was poor and continued so until 25th October, from which date up to the end of October, the best fishing of the season in cod, hake and haddock was done.

Mabou.—Average of cod and haddock was fair June to July, but very poor during the whole of August. Cod and hake were good from 18th September until 14th October.

Magaree.—During the months or June and July the average catch of cod was very good, but in August, September and October very few were caught, though the fish were still plentiful. The obstacle reported being as a rule scarcity of squid and rough weather.

Cheticamp.—June and July, average catch good, but from that time till the 24th October, the fisheries were much the same as at Magaree 24th October and 25th, the catch of cod was very good, squid bait having been obtained.

Meat Cove.—Just about the same as Cheticamp.

Ingonish.—Catch of cod only fair on the average in June and July; some improvement from 2nd August to 22nd August. Also fair catches 9th and 2th October.

St. Ann's.—Catch of cod on the average good from 24th June up to 25th August, also a few good catches of hake and haddock during the month of August. From the 25th August to 9th October, very little fishing of any kind was done. Then some improvement was reported on St. Anns Bank.

North Sydney.—A few poor catches here and there through August and July.

Louisburg.—Fair catches of cod from the time first report was received in August until the close of the season. Fish as a rule, were plentiful, but strong currents prevented good catches.

L'Ardoise.—Cod very good from 23rd July till the end of the first week in August.

Arichat.—Good cod pretty much all July and first week in August. Since that time very little done until 22nd September, when the catch was good. Also some fair catches made in about the 8th, 17th and 31st October.

St. Peters.—Fair cod 28th July to 5th August, and 9th to 16th October.

Nova Scotia.

Canso.—Some very good catches of cod in the first part of July and the first week of August. Also during first week of September, but in last part of September and October the scarcity of fish has been unprecedented at White Head and Ignace Harbour. About the same as Canso. Cod good at White Head 27th October, and fair at Canso on the 31st.

Spry Bay.—Catch of cod ranging from fair to good in July, one or two good catches in August; one very good on 27th August. Good catches of cod on 1st to 4th September; fair 8th to 11th.

Musquodoboit Harbour.—A few very good catches of cod in June, July and September (reports not good).

Lunenburg.—Cod fishing good all June. Cod and haddock very good the first few days of July; slacked off until the 5th August, when cod became plentiful off shore, and continued during September.

Port Medway.—Cod good 24th June, but after that owing to the presence of dogfish were scarce until about the middle of July, when cod and haddock became plentiful and continued so for a few days. The cod were again very plentiful about 27th August. Good takes were made again on 4th to 11th September. A few taken the first few days of October.

Lockport.—Cod fair to good in June, but very scarce in July owing to dogfish. 5th August. The catch was very good and good from the 16th to 27th. 1st to 10th September, the catch was fair.

Sand Point.—Cod and haddock good in June, but very scarce in July until the first of August owing to dogfish. On the 1st of August the dogfish struck off and then the cod, haddock and herring struck in and fair catches were made for some few days.

Port La Tour.—Cod and haddock very plentiful in deep water some miles off from 23rd of July until 4th of August, when dogfish interfered with them and prevented fishing. Good catches were made some miles off the latter half of August and former half of September. Also very good catch of cod on 4th October.

Pubnico.—During the last few days of July, the first half of August and the first half of September the catch of cod was very good.

Digby.—Cod and haddock good in June. First part of July poor fishing. On 22nd July hake struck in and continued very plentiful until 4th August, when the dogfish struck in and drove them off. None appeared since.

New Brunswick.

Grand Manan.—About 22nd of July hake struck in at Grand Manan as well as at Digby, and continued plentiful until the 4th of August, when the whole bay became infested with dogfish which drove them off. From last few days in August to the end of the season there was good fishing in cod and pollock.

Campobello.—Cod hake and haddock fisheries did well here from 23rd of July until the end of the season, the best fishing in the three years having been done from 4th to 11th September.

Beaver Harbour.—Reports much the same as Campobello.

Reports from Banks not regular enough to enable me to make a synopsis, but the general tenor seems to be that with squid bait and fair weather the bankers were successful.

ALEX. FRASER,
Clerk in charge F. G. Bureau.

SUPPLEMENT No. 1 TO THE ANNUAL REPORT

OF THE

DEPARTMENT OF FISHERIES

FISHERIES STATEMENTS

AND

INSPECTORS' REPORTS

For the Year

1890.

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1891.

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TO THE

SUPPLEMENT No. 1 TO THE ANNUAL REPORT

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DEPARTMENT OF FISHERIES
1890.

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REPORT

ON THE

FISHERIES OF THE DOMINION OF CANADA

FOR THE YEAR 1890.

To the Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—To be again able to report that the Canadian fisheries, as a whole, are in thriving condition and steadily improving in yield and value is very gratifying. With the exception of the Provinces of Quebec and New Brunswick, where a decrease of $629,058 is noticeable, principally due to the partial failure of the cod-fishery, an examination of the statistics will show an increase in all the other Provinces.

PRODUCE OF THE FISHERIES.

The following figures represent the total value of the fisheries of the Dominion of Canada for the year 1890 :—

Nova Scotia	$	6,636,444 64
British Columbia		3,481,432 29
New Brunswick		2,699,055 02
Ontario		2,009,637 37
Quebec		1,615,119 76
Prince Edward Island		1,041,109 20
Manitoba and the North-West Territories		232,104 05
Total	$	17,714,902 33

This is exclusive of the quantity consumed by the Indian population of British Columbia, Manitoba and the North-West Territories, of which no accurate data are at hand, but which, it is believed, would increase this total value to fully $21,000,000.

In order to give some idea of the extent of capital invested in Canadian fisheries, see statements, pages xxiv, xxvii, showing the number, tonnage and value of fishing vessels and boats, the material employed and the number of fishermen.

DETAILS.

The following table shows the value of the principal kinds of commercial fishes exceeding $100,000, as well as the increases and decreases in value:—

Kind of Fish.	Amount.	Increase compared with 1889.	Decrease compared with 1889.
	$	$	$
Cod	3,433,580	.....	184,660
Salmon	3,036,569	.....	105,356
Herring	1,958,492	.....	539,865
Lobsters	1,648,344	163,856	.....
Mackerel	1,524,976	594,580	.....
Whitefish	767,657	82,561	.....
Trout	625,286	71,917	.....
Haddock	532,068	.....	880
Seal skins	516,956	149,673	.....
Hake	377,440	.....	97,416
Fish Oils	315,034	.....	92,781
Smelts	283,443	.....	15,508
Pollock	273,548	.....	35,236
Alewives	192,452	26,011	.....
Pickerel	173,420	.....	8,961
Oysters	171,778	.....	18,119
Halibut	120,672	.....	39,387
Sturgeon	116,991	14,864	.....
Sardines	115,752	44,340	.....

THE FISHERIES OF NOVA SCOTIA.

Instead of the large shortage of nearly one million and a-half dollars mentioned in last year's report, the yield of the fisheries of this Province show an increase of $289,772.

This increase is principally in the cod, herring, shad and squid fisheries.

Had it not been for the very boisterous weather experienced in the fall and the failure of bait in most places, at the proper time, the catch of cod would have yielded a much larger figure. Neither was the fishery pursued with as much vigour as in former years. In Cape Breton especially, where people found ready employment on the railway, many sought it in preference to fishing.

Herring shows the large increase of nearly 5,000 barrels. On this subject the local Inspector of fisheries makes some very pertinent remarks about the necessity of having better and stricter inspection of fish. The low estimation in which the Cape Breton herring has fallen into public favour, is justly ascribed to the want of such inspection as well as to frauds practised on the public; and the sooner proper remedies are applied, the better it will be for the trade and the fishermen.

Lobsters show a slight increase, especially in fish shipped fresh alive. This increase is ascribed to favourable weather in some localities and a general improvement in the fishery.

The shad fishery exhibits a gratifying increase; but it is evident that additional legislation will be required to check present abuses and to insure the future of this important industry.

Contrary to former apprehensions, mackerel shows an increased catch of nearly $500,000. The fish were of excellent quality and the prices obtained much better than in previous years.

Squid, a fish exclusively used for bait, has become an important factor in the fishing industry of Nova Scotia, owing principally to the enforcement of the Newfoundland Bait Act. They are principally caught in trap-nets and seines, and the total value sold to the Bank fishermen exceeds $25,000.

NEW BRUNSWICK.

The returns for this Province show a falling off in the catch of $367,984, partly due to failure in the large herring and salmon fisheries. The other kinds compare favourably with last year; among them, the cod, mackerel, alewives and lobster fisheries showing very satisfactory results.

The comparative failure in the large herring fishery is ascribed by some persons to the practice of leaving nets all day in the water, by which it is claimed the schools are frightened and debarred from nearing the shores. The demand for sardine herring was brisk, and good prices were obtained. It is also claimed that the enormous catch during the past few years of what are called sardine herring, is now seriously depreciating the herring fishery.

The salmon fishery was fair in the estuaries of rivers and in some sheltered places on the coast; but the weather kept so stormy during the whole season, that a large number of nets were destroyed and fishing had to be abandoned in exposed localities. However, the spawning grounds are reported to have been visited by large numbers of breeding salmon.

PRINCE EDWARD ISLAND.

The returns for this Province exhibit the gratifying increase of $154,678 over the year 1889. This is due to an early opening of the season and to other favourable circumstances.

Spring herrings which are used for bait in lobster and mackerel fishing were unusually early and abundant.

A larger number of lobster factories were in operation than during the previous season; the fish also being abundant and of fair size.

Mackerel proved comparatively scarce; but, as the fish were of excellent quality and prices ruled high, the results were very satisfactory to the fishermen.

Oysters show a decreased output of 6,054 barrels. This was due to stormy weather in the fall. Some beds are becoming less productive every year, owing to over-fishing in the past; and stringent measures will be required to save them from utter annihilation. In this connection, the local Inspector of Fisheries strongly condemns the practice of winter fishing by which young and unmarketable oysters are left on the ice to perish, or fall back in the water when the ice melts in the spring, to the great injury of the beds. The re-stocking of depleted beds, and the leasing of oyster fishing grounds to private persons, is now engaging the Department's attention, and is fully dealt with in the main report.

QUEBEC.

The returns for this Province show a decrease of $261,074, as compared with 1889. This is principally accounted for by a reduced catch of cod, herring and seal, owing to the unprecedented severity of the season and to the damage caused to fishing gear by heavy gales and stormy weather.

The cod fishery began well; but, as the season advanced, bait became scarce, the weather kept rough and the result was a deficit of 32,094 cwt. in the catch.

The fall herring fishery was a failure; heavy weather keeping the fish off shore. The practice of using unspawned herring in enormous quantities, during the spring, for manuring purposes, is ascribed by many persons as having something to do with the failure of this fishery; and in this connection, it is proposed that the practice of using herring for manure be prohibited.

Seals were abundant in the gulf; but, owing to pack ice, schooners experienced great difficulty in reaching the fields, and the result was a partial failure.

The salmon fishing proved unremunerative on the south side of the River St. Lawrence, and in the Bay des Chaleurs. It was better on the north shore and on the coast of Labrador.

The lobster catch was about the same as in 1889.

Mackerel fishing was somewhat better than during the previous year.

The yield of the fisheries in the inland waters of the Province shows a steady improvement.

ONTARIO.

The yield of the fisheries in this Province is also very satisfactory; the figures being $2,009,637 against $1,963,122 for 1889, an increase of $46,514. Whitefish and salmon trout gave increased catches, while the other branches of the fishing industry appear to be in a healthy condition. The ciscoe fishery is fast developing into a lucrative business, and some measures of protection will be required to prevent present waste and future injury.

The service inaugurated in 1888, for the protection of the fish in Georgian Bay and Lake Huron by means of a small cruiser, and which has proved of such benefit to the fisheries of these waters, was continued during the present season under the command of Capt. E. Dunn, who by taking advantage of every favourable occasion, was enabled to do efficient work in the matter of enforcing the close seasons and preventing illegal fishing, as is evinced by the large seizures of fish, gill nets and boats made. The vessel employed for the past three seasons having been found unsuitable a new steamer for the service, is now being constructed at Owen Sound, and it is expected will be ready early in the month of August next

MANITOBA AND THE NORTH-WEST TERRITORIES.

A slight increase is noticeable in the yield of the fisheries of the above Province and Territories, although the close season for whitefish was lengthened by twenty days. This speaks well for the abundance of the fish, and goes far to show

that there need be no undue apprehension about the alleged depletion of these waters if reasonable protection is extended thereto.

One of the greatest drawbacks in the permanent improvement of the fisheries of Manitoba and the North-West Territories is the reckless destruction of whitefish by Indians during the breeding season; but it is to be hoped that Indian agents will be able, in the future, to prevail upon the several bands under their charge to desist from such wasteful practices and to kill only the number of fish necessarily required for their winter provision.

The service of protecting Fisheries is being extended to remote districts in the North-West Territories, and with an increasing population and the gradual settlement of the country, the fishing industry must necessarily develop. The great lakes to the west and north of Manitoba are teeming with whitefish, salmon, trout, sturgeon, and other valuable kinds of fish, for which a ready market can always be found in the neighbouring Republic. Salmon are abundant in the large rivers which empty into Hudson's Bay, and with the completion of the Hudson's Bay Railway, it is confidently expected that the trade in pickled and fresh fish could give employment to 10,000 persons in the great North-West alone.

BRITISH COLUMBIA.

The increase in the yield of the fisheries of this Province, although not quite so large as that of 1889, is still very satisfactory, amounting as it does to $133,365.

The salmon fishery shows a slight falling off, solely attributable to the low prices which ruled in the market. The run of fish on the Fraser, although it began a month later than usual, was good, and in August the rush of salmon was so great that in some instances fish had to be thrown away. On the Skeena and Naas Rivers the run was exceedingly large: the canneries being kept well supplied. There were 34 canneries operated during the season of 1890, and the output amounted to nearly 20,000,000 one pound cans.

The yield of fur seals shows an increase of $157,661 over that of 1889.

The other branches of the fishing industry are in a healthy condition.

A great diversity of opinion prevails between the resident officer of the Fisheries Department and the canners regarding the enforcement of necessary restrictions for the preservation of the salmon industry. The former contend, and with a good show of reason, that one of the principal causes of the rapid decline of the salmon fishery in the Atlantic Provinces, as well as in the United States, is due to overfishing and the neglect of statutory enactments to check it; while the canners claim that the supply of fish being inexhaustible, no protection is necessary. It has been clearly demonstrated in previous reports how utterly untenable such a pretention was. It was shown how the catch on the Columbia River, which amounted to 629,000 cases in 1883, fell down to 328,000 in 1889, or more than one half, and in this connection it may not be amiss to quote the following extract from a recent report on the salmon and salmon rivers of Alaska, by Dr. Bean, of the United States' Commission of Fish and Fisheries:

"There seems to be a disposition on the part of buyers to underrate Alaskan products; its fishery resources have not been laid under contribution for market

supply until within a few years, during which we have seen, as the result of reckless and improvident fishing, the practical destruction of the salmon fisheries of the Sacramento and the reduction of the take on the Columbia to nearly one-third of what it was in the early history of the salmon canning industry on that river."

* * * "Whether these fisheries shall continue to furnish an opportunity for profitable enterprise and investment depends upon the policy to be inaugurated and maintained by the Government. *Under judicious regulation and restraint*, these fisheries may be made a continuing source of wealth to the inhabitants of the territory, and an important food resource to the nation; *without such regulation and restraint*, we shall have repeated in Alaskan rivers the story of the Sacramento and the Columbia. And the destruction in Alaska will be more rapid because of the small size of the rivers and the ease with which salmon can be prevented from ascending them. For a few years, there will be wanton waste of that marvelous abundance, which the fishermen—concerned only for immediate profit and utterly improvident for the future—declare to be inexhaustible. This season of prosperity will be followed by a rapid decline in the value and production of these fisheries, and a point will be eventually reached where the salmon canning industry will be no longer profitable."

These remarks from one of the highest authorities on fishing matters in the States are well worth the careful attention of persons engaged in the business.

With the view of affording additional protection to the salmon industry of British Columbia, an Order in Council was passed on the 14th March, 1890, limiting the size of nets to $5\frac{3}{4}$ inches extension measure; making a weekly close time from Saturday night until Monday morning, which was subsequently changed to 6 a.m. Saturday to 6 p.m. Sunday; limiting the number of boats licensed to fish with drift nets on the Fraser River to 500, of which number 350 are to be allowed to canneries and 150 to outside fishermen, and regulating the fees to be paid on each license.

GENERAL RECAPITULATION

OF the Yield and Value of the Fisheries in the Dominion of Canada, for the Years 1889 and 1890.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Cod ..... Cwt.	904,560	3,618,240 00	857,734	3,433,580 00
Herring, pickled ..... Brls.	286,678	1,165,724 00	274,274	1,097,096 00
do smoked ..... Boxes.	2,685,170	666,342 25	1,354,161	340,290 25
do frozen, fresh ..... Lbs.	32,895,881	666,291 41	15,621,786	521,106 10
Lobsters, preserved, in cans ..... "	10,637,233	1,276,468 20	11,559,984	1,387,198 60
do in shell, alive, &c. ..... Tons.	5,247	208,020 00	6,748	261,146 00
Salmon, pickled ..... Brls.	6,704	84,740 00	5,140½	70,652 00
do fresh ..... Lbs.	4,267,173	634,734 20	3,686,998	563,533 10
do preserved, in cans ..... "	20,141,152	2,417,508 16	19,910,304	2,389,666 44
do smoked ..... "	24,714	4,943 00	63,592	12,718 00
Mackerel, preserved, in cans ..... "	196,212	23,544 88	283,474	35,032 92
do fresh ..... "	542,500	32,550 00	770,090	46,254 00
do pickled ..... Brls.	62,237	874,302 00	96,246	1,443,690 00
Haddock ..... Cwt.	125,662	532,948 00	133,017	532,068 00
Hake ..... "	118,714	474,856 00	94,335	377,440 00
Pollock ..... "	77,196	308,784 00	68,387	273,548 00
Trout ..... Lbs.	5,125,493	512,549 30	5,829,466	584,166 60
do pickled ..... Brls.	4,082	40,820 00	4,112	41,120 00
Whitefish ..... Lbs.	9,806,422	685,096 30	11,176,582	767,657 90
Smelts ..... "	5,011,058	298,951 78	4,735,517	283,443 57
Sardines ..... Hogsheads.	23,804	71,412 00	.....	115,752 00
Oysters ..... Brls.	63,049	189,897 00	56,676	171,778 00
Hake Sounds ..... Lbs.	79,489½	79,489 50	67,554	62,624 00
Cod Tongues and Sounds ..... "	307,247	19,253 50	321,200	16,060 00
Alewives ..... Brls.	37,470	166,441 00	42,766	192,452 00
Shad, fresh ..... Lbs.	170,330	10,219 80	108,103	6,486 18
do pickled ..... Brls.	4,868	48,145 00	6,728	66,524 00
Eels do ..... "	7,100	71,000 00	7,389	73,890 00
do fresh ..... Lbs.	1,378,473	82,708 38	1,425,051	85,503 06
Halibut ..... "	1,903,115	160,059 00	1,525,130	120,672 80
Sturgeon ..... "	1,773,685	102,127 72	2,047,170	116,991 90
Maskinongé ..... "	755,203	45,312 18	769,846	46,190 76
Bass ..... "	1,153,487	55,725 16	977,470	58,648 70
Pickerel ..... "	3,264,501	182,381 92	3,142,189	173,420 13
Pike ..... "	1,743,444	69,287 79	1,691,702	62,262 64
Winninish ..... "	100,000	6,000 00	100,000	6,000 00
Tom Cod or Frost Fish ..... "	.....	26,580 00	.....	34,244 88
Flounders ..... "	84,300	8,430 00	79,000	7,900 00
Squid ..... Brls.	11,649	46,596 00	13,138	52,452 00
Oolâchans ..... Lbs.	165,200	13,390 00	114,600	7,780 00
Clams	.....	19,950 00	.....	16,180 00
Fur Seal Skins in B.C. ..... No.	33,570	335,700 00	44,751	492,261 00
Hair do ..... "	33,333	31,583 00	27,245	24,695 00
Sea Otter Skins ..... "	115	11,500 00	102	10,200 00
Porpoise skins ..... "	777	3,151 00	549	2,271 00
Fish oils ..... Galls.	984,183	417,815 00	727,020	315,034 00
Coarse and Mixed Fish ..... Brls.	27,275	147,852 48	40,278	187,942 05
Mixed Fish, B.C.	.....	63,236 25	.....	46,911 25
Fsh used as Bait ..... Brls.	217,609	261,347 00	165,590	248,986 00
Fish used as Manure ..... "	60,563	30,281 00	122,484	61,242 00
Guano ..... Tons.	984	24,600 00	602	17,080 00
Crabs ..... No.	.....	.....	504,800	25,240 00
Home Consumption not included in Returns	.....	336,370 87	.....	327,809 50
Total	.....	17,655,256 03	.....	17,714,902 33

RECAPITULATION.

Provinces.	Value.		Decrease.	Increase.
	1889.	1890.		
	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	6,346,722 00	6,636,444 64		289,722 64
New Brunswick	3,067,039 04	2,699,055 02	367,984 02	
Quebec	1,876,194 19	1,615,119 76	261,074 43	
Prince Edward Island	886,430 84	1,041,109 20		154,678 36
British Columbia	3,348,067 61	3,481,432 29		133,364 68
Ontario	1,963,122 80	2,009,637 37		46,514 57
Manitoba and North-West Territories	167,679 55	232,104 05		64,424 50
Total	17,655,256 03	17,714,902 33	629,058 45	688,704 75
Increase over 1889				59,646 30

COMPARATIVE STATEMENT

Of Production in each Branch of the Fisheries in the respective Provinces of the Dominion of Canada, in 1889 and 1890.

PROVINCE OF NOVA SCOTIA,

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Salmon ..... Brls.	2,377	38,032 00	2,042	32,672 00
do fresh ..... Lbs.	407,454	81,490 40	287,722	57,544 40
do smoked ..... Lbs.	7,516	1,503 00	2,892	578 00
do preserved ..... Cans.	9,784	1,466 80	8,032	1,205 40
Mackerel ..... Brls.	43,038	586,317 00	70,509	1,057,635 00
do preserved ..... Cans.	62,258	7,470 40	91,408	11,985 00
do fresh ..... No.	542,500	32,550 00	770,090	46,254 00
Herring ..... Brls.	127,605	529,432 00	126,054	504,216 00
do smoked ..... Boxes,	35,835	8,958 50	17,160	4,290 00
do fresh or cans ..... Lbs.	5,760	691 20	Cans 6,336	633 60
Alewives ..... Brls.	22,858	102,862 00	21,448	96,516 00
do smoked ..... No.	150,000	1,200 00	130,000	1,040 00
Cod, dried ..... Cwt.	587,558	2,350,232 00	607,904	2,431,616 00
Cod Tongues and Sounds ..... Brls.	1,328	13,280 00	1,355	13,550 00
Haddock ..... Cwt.	115,956	492,324 00	110,174	440,696 00
do fresh ..... Lbs.	.....	.....	400,000	16,000 00
Finnan Haddies ..... Lbs.	280,000	11,200 00	158,000	12,640 00
Pollock ..... Cwt.	56,326	225,304 00	49,428	197,712 00
Hake ..... "	79,690	318,760 00	59,335	237,440 00
do Sounds ..... Lbs.	42,328	42,328 00	30,103	30,103 00
Halibut ..... "	1,155,924	115,592 40	687,657	68,765 50
Shad ..... Brls.	1,012	9,585 00	1,607	15,314 00
Bass ..... Lbs.	26,800	1,608 40	11,575	695 00
Trout ..... "	148,448	14,844 80	147,941	14,794 10
Squid ..... Brls.	11,360	45,440 00	13,039	52,056 00
Smelts ..... Lbs.	480,760	28,845 50	421,740	25,304 40
Eels ..... Brls.	3,468	34,680 00	3,242	32,420 00
Oysters ..... "	2,532	7,596 00	3,013	9,039 00
Lobsters, preserved ..... Cans.	6,181,763	741,811 80	6,161,716	739,406 44
do shipped fresh, alive, &c. ..... Tons.	4,212	176,970 00	5,632	211,016 00
Fish Oils ..... Galls.	368,290	147,315 80	269,418	107,766 80
Guano ..... Tons.	661	16,525 00	267	8,715 00
Fish used as Bait ..... Brls.	59,102	88,653 50	57,554	86,332 00
do Manure ..... "	18,256	9,127 50	19,228	9,614 00
Amount sold in Halifax market	.....	40,500 00	}	59,600 00
Home consumption of various counties, as per return	.....	20,400 00		
Clams	.....	1,825 00	.....	1,280 00
Total	.....	6,346,722 00	.....	6,636,444 64
Increase in 1890	.....	.....	.....	289,722 64

COMPARATIVE STATEMENT

Of Productions in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Cod ... Cwt.	110,003	440,012 00	77,689	311,362 50
Herring ... Brls.	81,241	324,964 00	74,401	297,604 00
do smoked ... Boxes	2,614,900	653,725 00	1,314,136	330,284 00
do frozen ... No.	22,247,860	133,487 16	13,700,000	82,200 00
Mackerel ... Brls.	2,147	32,205 00	3,877	58,155 00
do preserved in cans ... Lbs.	34,684	4,162 08	45,520	5,462 40
Haddock ... Cwt.	7,507	30,028 00	13,615	54,460 00
Pollock ... "	20,870	83,480 00	18,959	75,836 00
Hake ... "	31,906	127,624 00	28,528	114,112 00
Halibut ... Lbs.	47,560	4,756 00	103,250	10,325 00
Salmon, pickled ... Brls.	30	480 00	60	960 00
do fresh, in ice ... Lbs.	1,120,239	224,047 80	1,084,805	216,996 00
do preserved, in cans ... "	9,240	1,386 00	6,280	942 00
do smoked ... "	4,300	860 00	2,400	480 00
Alewives ... Brls.	13,405	60,322 50	20,577	92,596 50
Trout ... Lbs.	72,230	7,223 00	74,900	8,710 00
Smelts ... "	3,960,938	237,656 28	3,786,952	227,537 12
Shad ... Brls.	3,855	38,550 00	5,116	51,160 00
Eels ... "	1,668	16,680 00	1,063	10,630 00
Sardines ... Hogsheads.	18,145	54,435 00	18,820	94,050 00
do in cans ... Cases.	...	...	400	1,800 00
Bass ... Los.	87,806	5,268 36	81,600	4,896 00
Pickerel ... "	157,900	9,474 00	145,200	8,772 00
Perch ... "	24,700	741 00	26,200	786 00
Oysters ... Brls.	17,760	53,280 00	16,710	50,130 00
Lobsters, preserved ... Cans.	1,800,573	216,068 76	2,365,256	283,830 72
do ... Tons.	1,035	31,050 00	1,014	50,130 00
Cod Tongues and Sounds ... Brls.	40	400 00	61	610 00
Hake Sounds ... Lbs.	37,161½	37,161 50	27,591	27,591 00
Fish Oils ... Galls.	104,724	41,889 60	97,181	38,872 40
Fish Guano ... Tons.	323	8,075 00	335	8,375 00
Fish used as Manure ... Brls.	29,207	14,603 50	33,740	16,870 00
do Bait ... "	45,185	67,777 50	47,159	71,338 50
Squid ... "	289	1,156 00	99	396 00
Frost Fish ... Lbs.	214,500	8,580 00	224,672	9,244 88
Flounders ... "	84,300	8,430 00	79,000	7,900 00
Clams ... Brls.	2,000	12,000 00	...	9,650 00
Fish used in District No. 1, not included above	...	75,000 00	...	64,000 00
Total ...	...	3,067,039 04	...	2,699,055 02
Decrease in 1890 ...	...	...	...	367,984 02

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Cod ... Cwt.	21,196	84,784 00	16,432	65,728 00
Herring ... Brls.	33,940	135,760 00	47,502	190,008 00
Mackerel ... "	12,450	186,750 00	16,837	252,555 00
do preserved ... Cans.	99,270	11,912 40	146,546	17,585 52
Haddock ... Cwt.	900	3,600 00	770	3,080 00
Hake ... "	7,118	28,472 00	6,472	25,888 00
Salmon, fresh ... Lbs.	1,400	280 00	4,700	940 00
Alewives ... Brls.	457	2,056 50	511	2,299 50
Halibut ... Lbs.	3,730	373 00	5,422	542 20
Bass ... "	1,600	96 00	200	12 00
Trout ... "	56,820	5,682 00	63,100	6,310 00
Smelts ... "	346,100	20,766 00	326,330	19,519 80
Eels ... Brls.	1,814	18,140 00	3,012	30,120 00
Oysters ... "	41,257	123,771 00	35,203	105,609 00
Lobsters preserved in cans ... Lbs.	2,060,947	247,313 64	2,416,794	290,015 28
Cod Sounds ... "	13,647	4,573 50	7	70 00
Fish Oils ... Galls.	13,852	5,540 80	11,361	4,544 40
Manure ... Brls.	13,100	6,550 00	8,450	4,225 00
Bait ... "	...	...	11,385	17,077 50
Shad ... Brls.	...	10 00	5	50 00
Hake Sounds ... Lbs.	...	...	9,860	4,930 00
Total ...	...	886,430 84	...	1,041,109 20
Increase in 1890 ...	...	...	...	154,678 36

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF QUEBEC.

Kinds of Fish.		1889.		1890.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Cod	Cwt.	185,803	743,212 00	153,709	614,836 00
Herring, pickled	Brls.	36,356	145,424 00	19,892	79,568 00
do smoked	Boxes	1,435	358 75	865	216 25
Mackerel	Brls.	4,602	69,030 00	5,023	75,345 00
Haddock	Cwt.	1,749	6,996 00	1,298	5,192 00
Halibut	Lbs.	90,851	9,085 10	92,001	9,200 10
Salmon, pickled	Brls.	548	8,768 00	442	7,080 00
do fresh	Lbs.	551,080	110,216 00	570,756	114,151 20
Shad	"	170,330	10,219 80	108,103	6,486 18
Eels	"	1,236,591	74,195 46	1,299,816	77,988 96
do pickled	Brls.	150	1,500 00	72	720 00
Sardines	"	5,659	16,977 00	6,634	19,902 00
Sturgeon	Lbs.	458,325	27,499 50	330,370	19,822 20
Trout	"	489,700	48,970 00	415,975	41,597 50
do	Brls.	123	1,230 00	153	1,530 00
Winninish	Lbs.	100,000	6,000 00	100,000	6,000 00
Whitefish	"	193,333	15,466 64	178,668	14,293 44
Maskinongé	"	129,130	7,747 80	118,440	7,106 40
Bass	"	110,920	6,655 20	105,300	6,318 00
Pickerel	"	482,619	28,957 14	274,762	16,485 72
Pike	"	354,880	17,744 00	310,200	15,510 00
Tom cod	Bush.	30,000	18,000 00	50,000	25,000 00
Cod tongues and sounds	Brls.	100	1,000 00	183	1,830 00
Lobsters, canned	Lbs.	593,950	71,274 00	616,218	73,946 16
Small and mixed fish	Brls.	11,216	60,303 00	21,610	87,612 00
Seal skins	No.	26,333	26,333 00	17,045	17,045 00
Porpoise skins	"	777	3,151 00	549	2,271 00
Fish oils	Galls.	355,897	142,358 80	206,796	82,718 40
Fish used as bait	Brls.	113,322	104,916 00	49,492	74,238 00
do manure	"			61,066	30,533 00
Smelts	Lbs.	171,160	8,558 00	100,745	5,037 25
Fish used as local consumption	Brls.	21,012	84,048 00	18,885	75,540 00
Total			1,876,194 19		1,615,119 76
Decrease					261,074 43

COMPARATIVE STATEMENT

Of the Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF BRITISH COLUMBIA.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Salmon ..... Brls.	3,749	37,460 00	2,994	29,940 00
do fresh ..... Lbs.	2,187,000	218,700 00	1,739,015	173,901 50
do preserved, in cans. ..... "	20,122,128	2,414,655 36	19,895,992	2,387,519 04
do smoked. ..... "	12,900	2,580 00	58,300	11,660 00
Herring, fresh ..... "	190,000	9,500 00	329,500	16,475 00
do smoked ..... "	33,000	3,300 00	27,500	5,500 00
Trout, fresh ..... "	14,025	1,402 50	52,900	5,290 00
Sturgeon ..... "	318,600	15,930 00	396,000	19,800 00
Skil, salted ..... Brls.	1,560	18,720 00	290	3,480 00
Clams ..... Sacks.	3,500	6,125 00	3,000	5,250 00
Halibut, fresh ..... Lbs.	606,050	30,252 50	636,800	31,840 00
Mussels ..... Sacks.	.....	.....	300	600 00
Oysters ..... "	3,000	5,250 00	3,500	7,000 00
Oolachans, pickled ..... Brls.	380	3,800 00	378	3,780 00
do smoked ..... Lbs.	6,700	1,340 00	1,000	200 00
do fresh ..... "	82,500	8,250 00	38,000	3,800 00
Fur Seal Skins ..... No.	33,570	335,700 00	44,751	492,261 00
Hair do ..... "	7,000	5,250 00	10,200	7,650 00
Sea Otter Skins ..... "	115	11,500 00	102	10,200 00
Fish Oils ..... Galls.	141,420	70,710 00	162,264	81,132 00
Crabs and Prawns	.....	10,750 00	.....	30,240 00
Smelts, fresh ..... Lbs.	52,100	3,126 00	100,750	6,045 00
Assorted or Mixed Fish ..... "	322,725	16,136 25	426,025	21,301 25
Fish for home consumption, Chinese labourers ..... "	.....	100,000 00	.....	100,000 00
Rock Cod ..... "	39,250	1,962 50	200,750	10,037 50
Tooshqua, fresh ..... "	268,350	13,417 50	309,000	15,450 00
Fish products	.....	2,250 00	.....	1,080 00
Total	.....	3,348,067 61	.....	3,481,432 29
Increase	.....	.....	.....	133,364 68

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF ONTARIO.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Whitefish ... Brls.	3,518½	35,185 00	4,067	40,670 00
do ... Lbs.	6,298,507	503,880 56	6,782,292	542,583 36
Salmon trout ... Brls.	3,959	39,590 00	3,959	39,590 00
do ... Lbs.	4,344,270	434,427 00	5,074,650	507,465 00
Herring ... Brls.	7,536	30,144 00	6,425	25,700 00
do ... Lbs.	10,452,261	522,613 05	8,435,950	421,797 50
Maskinongé ... "	626,073	37,564 38	651,406	39,084 36
Bass ... "	701,620	42,097 20	778,795	46,727 70
Pickerel ... "	2,174,344	130,460 64	2,216,520	132,991 20
Pike ... "	792,417	39,620 85	637,420	31,871 00
Sturgeon ... "	886,022	53,161 32	1,132,970	67,978 20
Eels ... "	141,882	8,512 92	125,235	7,514 10
Coarse Fish ... "	2,314,767	69,443 01	2,556,515	76,695 45
Fish for Home Consumption ... "	547,429	16,422 87	965,650	28,969 50
Total ...		1,963,122 80		2,009,637 37
Increase in 1890 ...				46,514 57

Approximative Yield and Value of the Fisheries for the Years 1889 and 1890.

MANITOBA AND NORTH-WEST TERRITORIES.

Kinds of Fish.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
		$ cts.		$ cts.
Whitefish ... Lbs.	2,517,282	125,884 10	3,402,222	170,111 10
do ... Brls.	468	4,680 00	...	...
Pikerel (Doré) ... Lbs.	449,638	13,490 14	505,707	15,171 21
Pike (Jackfish) ... "	596,147	11,922 94	744,082	14,881 64
Sturgeon ... "	110,738	5,536 90	187,830	9,391 50
Catfish ... "	24,025	480 50	...	...
Tullibee ... "	172,704	1,727 04	178,700	3,574 00
Mixed fish ... "	395,793	3,951 93	948,730	18,974 60
Total ...		167,679 55		232,104 05
Increase in 1890 ...				64,424 50

RECAPITULATION.

TABLE showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1890, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

Years.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-West Territories.	Total for Canada.
	$	$	$	$	$	$	$	$
1870	4,019,425	1,131,433	No data	1,161,551	264,982	No data	No data	6,577,391
1871	5,101,030	1,185,033	do	1,093,612	193,524	do	do	7,573,199
1872	6,016,835	1,965,459	do	1,320,189	267,633	do	do	9,570,116
1873	6,577,087	2,285,662	207,595	1,391,564	293,091	do	do	10,754,997
1874	6,652,302	2,685,794	288,863	1,608,660	446,267	do	do	11,681,886
1875	5,573,851	2,427,654	298,927	1,596,759	453,194	do	do	10,350,385
1876	6,029,050	1,953,389	494,967	2,097,668	437,229	104,697	do	11,117,000
1877	5,527,858	2,133,237	763,036	2,560,147	438,223	583,433	do	12,005,934
1878	6,131,600	2,305,790	840,344	2,664,055	348,122	925,767	do	13,295,678
1879	5,752,937	2,554,722	1,402,301	2,820,395	367,133	631,766	do	13,529,254
1880	6,291,061	2,744,447	1,675,089	2,631,556	444,491	713,335	do	14,499,979
1881	6,214,782	2,930,904	1,955,290	2,751,962	509,903	1,454,321	do	15,817,162
1882	7,131,418	3,192,339	1,855,687	1,976,516	825,457	1,842,675	do	16,824,092
1883	7,689,374	3,185,674	1,272,468	2,138,997	1,027,033	1,644,646	do	16,958,192
1884	8,763,779	3,730,454	1,085,619	1,694,561	1,133,724	1,358,267	do	17,766,404
1885	8,283,922	4,005,431	1,293,430	1,719,460	1,342,692	1,078,038	do	17,722,973
1886	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,577,348	186,980	18,679,288
1887	8,379,782	3,559,507	1,037,426	1,773,567	1,531,850	1,974,887	129,084	18,386,103
1888	7,817,030	2,941,863	876,862	1,860,012	1,839,869	1,902,195	180,677	17,418,510
1889	6,346,722	3,067,039	886,430	1,876,194	1,963,123	3,348,067	167,679	17,655,256
1890	6,636,444	2,699,055	1,041,109	1,615,119	2,009,637	3,481,432	232,104	17,714,902
Totals.	139,351,651	56,865,113	18,417,434	40,093,926	17,573,175	22,620,874	896,524	295,818,701

RECAPITULATION

SHOWING the Number, Tonnage and Value of Vessels and Boats; Value of all Fishing Material, &c.; Number of Fishermen in the Dominion of Canada for the Year 1890.

PROVINCES.	FISHERMEN.		VESSELS.			BOATS.		GILL NETS AND SEINES.		Value of Trap and Pound Nets, Weirs, &c.	Value of Lobster Factories and Traps.	Approximate Value of Freezers, Smokehouses and other Fixtures not Itemized.	Total Value.*
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
					$		$		$	$	$	$	$
Nova Scotia.....	6,396	21,288	597	31,077	1,412,645	13,693	320,426	3,130,394	763,160	192,065	415,308	139,707	3,243,310
New Brunswick.	614	10,525	151	2,804	76,490	5,391	167,451	376,868	251,245	168,580	205,560	315,419	1,184,745
Prince Edward Island	181	2,086	78	2,477	47,080	1,537	54,025	114,919	57,229	27,951	135,835	26,200	348,320
Quebec.....	364	11,003	67	2,097	61,100	6,182	180,625	247,867	157,743	55,876	66,200	.. ..	521,544
Ontario	263	2,782	61	1,614	115,000	1,277	102,131	1,397,292	259,974	86,338	.....	.....	563,443
British Columbia....	908	7,315	115	3,015	440,475	1,723	99,688	273,945	206,007	7,115	.....	757,994	1,511,279
	8,726	54,999											
Totals	.....	63,725	1,069	43,084	2,152,790	29,803	924,346	5,541,285	1,695,358	537,925	822,903	1,239,319	7,372,641

*NOTE.—For further details see pages 68, 102, 115, 159 and 191.

RECAPITULATION

SHOWING the Number of Vessels, Boats and Value of other Fishing Material, &c., also the Number of Men engaged Fishing during the Year 1889.*

PROVINCES.	FISHERMEN.		VESSELS AND TUGS.			BOATS.		NETS AND SEINES.		Value of Trap and Pound Nets, Weirs, &c.	Value of Lobster Factories and Traps, &c.	Approximate Value of Freezers and other Fixtures not itemized.	Total Value of Capital Invested.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
					$		$		$	$	$	$	$
Nova Scotia.....	6,814	20,520	644	32,479	1,427,165	14,129	329,503	3,131,080	706,076	81,670	176,176	129,187	2,849,777
New Brunswick.	637	9,890	156	2,739	89,468	5,132	231,042	396,531	232,385	129,350	91,135	454,120	1,227,300
Prince Edward Island	559	3,686	64	2,142	42,760	1,293	42,874	92,927	65,935	6,800	111,000	24,000	293,369
Quebec.....	598	10,985	97	3,786	106,025	5,834	169,438	248,823	156,311	53,838	46,695	....	532,307
Ontario.....	277	3,251	60	1,235	134,700	1,590	101,868	1,320,798	218,191	96,867	.....	.....	551,626
British Columbia....	736	7,050	79	2,555	264,800	1,577	90,285	263,013	212,187	8,000	....	739,500	1,315,772
	9,621	55,382											
Totals	....	65,003	1,100	44,936	2,064,918	29,555	965,010	5,453,172	1,591,085	376,525	425,006	1,346,807	6,770,151

*NOTE—This table was not published in the Annual Report of 1889.

TABLE showing the Number of Vessels and Boats, their Value and that of other Fishing Material, also the Number of Fishermen engaged in Fishing during the Year 1883*.

	Fishermen.		Vessels.			Boats.		Gill Nets and Seines.		Value of Trap and Pound Nets, &c., and other Fishing Material.	Total Value.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.		
					$		$		$	$	$
Nova Scotia	7,740	22,413	751	33,421	1,437,135	12,116	342,965	1,081,965	512,385	198,480	2,490,965
New Brunswick	1,005	7,346	223	3,918	109,510	4,251	163,563	367,065	242,978	214,292	730,343
Prince Edward Island	294	3,562	42	1,578	44,650	1,108	43,781	80,373	34,933	2,950	126,314
Quebec	760	11,174	137	7,969	318,750	6,500	162,074	203,510	168,177	84,570	733,571
Ontario	97	2,594	22	406	45,950	910	21,598	1,031,937	147,903	55,638	271,089
British Columbia	70	5,170	23	814	67,050	940	49,205	158,750	136,990	515,000	768,245
	9,966	52,259									
Totals	.....	62,225	1,198	48,106	2,023,045	25,825	783,186	2,723,600	1,243,366	1,070,930	5,120,527

* The contents of this table was not published in the report of that year (1883).

COMPARATIVE TABLE showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1890.

Years.	Vessels.			Boats.		Value of Nets and Seines.	Value of other Fishing Material.	Total of Capital Invested.
	No.	Tonnage.	Value.	No.	Value.			
			$		$	$	$	$
1879.....	1,183	43,873	1,714,917	25,616	854,289	988,698	456,617	4,014,521
1880.....	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1881.....	1,120	48,389	1,765,870	26,108	696,710	970,617	679,852	4,113,049
1882.....	1,140	42,845	1,749,717	26,477	833,137	1,351,193	823,938	4,757,985
1883.....	1,198	48,106	2,023,045	25,825	783,186	1,243,366	1,070,930	5,120,527
1884.....	1,182	42,747	1,866,711	24,287	741,727	1,191,579	1,224,646	5,014,663
1885.....	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1886.....	1,113	44,605	1,980,411	28,137	850,545	1,263,152	2,720,187	6,814,295
1887.....	1,168	44,485	1,989,840	28,092	875,316	1,499,328	2,384,356	6,748,840
1888.....	1,137	43,247	2,017,558	27.384	859,953	1,594,992	2,390,502	6,863,005
1889.....	1,100	44,936	2,064,918	29,555	965,010	1,591,085	2,149,138	6,770,151
1890.....	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641

COMPARATIVE TABLE showing the Number of Men Employed in the Fishing Industry in Vessels and Boats since the Year 1879 to 1890.

Years.	Number of Men in Vessels.	Number of Men in Boats.	Total Number of Fishermen.
1879	8,818	52,577	61,395
1880	8,757	51,900	60,657
1881	8,359	50,679	59,056
1882	8,498	52,785	61,283
1883	9,966	52,259	62,225
1884	9,968	51,854	61,822
1885	9,539	53,282	62,821
1886	8,927	53,073	62,000
1887	8,911	55,247	64,158
1888	9,574	53,109	62,683
1889	9,621	55,382	65,003
1890	8,726	55,000	63,726

THE FISHERY LAWS OF THE DOMINION.

TABLE of Close Seasons in force on 31st December, 1890.

First and last days of which are inclusive, except in dates for Salmon and Lobsters.

Kinds of Fish.	Ontario.	Quebec.	Nova Scotia.	New Brunswick.	P. E. I.	Manitoba and N.-W. Ter.
Salmon (net fishing)		Aug. 1 to May 1.	Aug. 15 to Mar. 1.	Aug. 15 to Mar. 1.		
Salmon (angling)		Aug. 15 to Feb. 1.	Aug. 15 to Feb. 1.	Aug. 15 to Feb. 1.		
Speckled Trout (*Salvelinus Fontinalis*).	Sept. 15 to May 1.	Oct. 1 to Dec. 31	Oct. 1 to Apr. 1.	Sept. 15 to May 1.	Oct. 1 to Dec. 1.	Oct. 1 to Jan. 1.
Salmon Trout	Oct. 15 to Nov. 30.					
Large Grey Trout, Lunge and Landlocked Salmon.		Oct. 15 to Dec. 1.	Oct. 1 to Apr. 1.	Sept. 15 to May 1.		
Ouananiche		Sept. 15 to Dec. 1.				
Pickerel (Doré)	Apr. 15 to May 15.	Apr. 15 to May 15.				Apr. 15 to May 15.
Bass and Maskinongé	Apr. 15 to June 15.	Apr. 15 to June 15.				
Sea Bass			Mar. 1 to Oct. 1.	Mar. 1 to Oct. 1.		
Whitefish	Nov. 1 to Nov. 30.	Nov. 10 to Dec. 1.		Oct. 1 to Dec. 31.		Oct. 5 to Nov. 30.
Smelts		Apr. 1 to July 1. Bag net fishing prohibited, except under license.	Apr. 1 to July 1.	Apr. 1 to July 1.	Apr. 1 to July 1.	
Lobsters		July 15 to Dec. 31.	July 1 to Dec. 31. On Atlantic coast, from Cape Canso to boundary line, U.S., July 15 to Dec. 31, in remaining waters of Nova Scotia and New Brunswick.	July 1 to Dec. 31.	July 15 to Dec. 31.	
Sturgeon				Aug. 31 to May 1.		May 1 to June 15.
Oysters		June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.	

Note.—In the Province of British Columbia, the following Regulations are in force :—

1. Net fishing allowed only under licenses.
2. Salmon nets to have meshes of at least $5\frac{3}{4}$ inches extension measure.
3. Drift nets confined to tidal waters. No nets to bar more than one-third of any river. Fishing to be discontinued from 6 a.m. Saturday to 6 p.m. Sunday.
4. The Minister of Marine and Fisheries to determine number of boats, seines, or nets to be used on each stream.
5. The close season for trout is from the 15th October to 15th March.

SYNOPSIS OF FISHERY LAWS.

Net fishing of any kind is prohibited in public waters, except under lease or license.

The size of nets is regulated so as to prevent the killing of young fish. Nets cannot be set or seines used so as to bar channels or bays.

A general weekly close-time is provided in addition to special close season.

The use of explosive or poisonous substances for catching or killing fish is illegal.

Mill dams must be provided with efficient fish passes. Models or drawings will be furnished by the Department on application.

The above enactments and close-seasons are supplemented in special cases, under authority of the Fisheries Act, by a total prohibition of fishing for stated periods.

FISH BREEDING.

A full report on the result of fish-breeding operations during the season of 1890, is published at Part II of this Supplement. This also contains illustrations of the several kinds of nets used in salmon fishing in the Baie des Chaleurs and elsewhere, as well as a report of Mr. S. Wilmot's visit to Newfoundland, for the purpose of procuring data to enable this Department to put up a lobster hatchery in the Maritime Provinces.

CONCLUSION.

The usual statements relative to the Expenditure and Revenue of the Department, together with reports on Fishing Bounties and Fisheries Protection Service, will be found in the main report previously printed.

It is hardly necessary to repeat that the statistical statements of fisheries being brought down to the 31st December, in each year, it is impossible to have them compiled and in readiness for Printer in time to be included in first report.

I have the honour to be, Sir,
Your obedient servant,
JOHN TILTON,
Deputy Minister of Fisheries.

APPENDIX A.

NOVA SCOTIA.

District No. 1, comprising the four Counties of the Island of Cape Breton.—**Inspector A. C. Bertram.**

District No. 2, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants.—**Inspector Robert Hockin.**

District No. 3, comprising the Counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.—**Inspector J. R. Kinney.**

DISTRICT No. 1.

ANNUAL REPORT OF THE FISHERIES OF CAPE BRETON ISLAND, COMPRISING THE COTNTIES OF CAPE BRETON, INVERNESS, RICHMOND AND VICTORIA, FOR THE YEAR 1890, BY INSPECTOR A. C. BERTRAM.

North Sydney, C.B., 1st December, 1890.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit my Seventh Annual Report on the fisheries of the coastal waters and streams of the Island of Cape Breton for the calendar year ending 31st December, 1890, with synopses of reports of Overseers for the four counties therein comprised.

The total value of the catch during the year just closed sums up to $1,510,585.90, an increase of 127,990.58 over that of 1889, and coming within $57,000 of the value of the best year since I first had the honour of reporting, in 1884. This is more fully explained by the following table:—

Year.	Product Value.
1884	$1,421,787
1885	1,501,498
1886	1,561,655
1887	1,554,288
1888	1,481,988
1889	1,382,580
1890	1,510,575

It is with much pleasure that I note this appreciable increase, for it was manifest that the failures experienced in 1888 and 1889 had greatly discouraged those

engaged in the fishing industry. The following tabulated statement gives the values by counties for the year 1889 and 1890. Only the County of Richmond shows an increase of $189,385.56, while the others show a decrease, the total of which is, however, only $61,388.98, which reduces the increase for the Island to $127,996.58.

Counties.	Product. Value. 1889.	1890.	Decrease.	Increase.
	$ cts.	$ cts.	$ cts.	$ cts.
Cape Breton	195,294 00	190,051 26	5,242 44	
Inverness	378,326 54	377,339 12	987 42	
Richmond	566,346 80	755,732 36		189,385 56
Victoria	242,612 30	187,453 18	55,159 12	
	1,382,579 34	1,510,575 92	61,388 98	189,385 56
				61,388 98
				127,996 58

The increased production in Richmond County is so great over that of Cape Breton, Inverness and Victoria, which have experienced an almost corresponding decrease, that it would appear at first sight as if the first named county was more favoured in those conditions which usually accompany a successful fishing season; such as a plentiful supply of bait, abundance of fish and favourable weather. But a closer study of the facts show that even Richmond's large yield does not prove that the season of 1890 was more prosperous that that of 1889. The value of 1889, if divided by the number of men engaged in the business, will be found slightly greater than the production of 1890 divided by the same number of men in that year. Applying the same rule to the other three counties, it will be found that the season's catch has not been such as to be considered favourable or satisfactory.

To more fully illustrate this, the following tabulated statement is prepared, giving a comparison of the yield per man in the four counties:—

Counties.	Man. 1889.	1890.	Increase.	Decrease.	Yield per Man. 1889.	1890.	Increase.	Decrease.
Cape Breton	1,603	1,502	101		121·20	126·54	5·34	
Inverness	2,637	2,191		446	143·43	172·22	28·79	0·50
Richmond	2,675	3,052	375		211·72	211·22		26·89
Victoria	2,049	2,165		116	113·52	86·63		*

Last year's operations were thus quite as unfavourable as in 1888 and 1889, and in seeking an explanation of this fact, I experience little difficulty. The old

* It must be borne in mind that this sum does not represent the incomes of the fishermen, as they invariably combine farming with their fishing ventures.

standing complaint of scarcity of bait was as potent as in the two preceding years. It being well known that bait suitable for different kinds of fish come in successive schools, and as these remain but a short time in one place, only those fishermen who are lucky enough to get a share of proper bait can hope to catch fish. It frequently happens that a good catch of bait is made one day, but for want of means to keep it fresh until it can be used, it proves worthless; and what might, with a little provident forethought, prove a profitable voyage, becomes a failure. I have repeatedly urged the advantages of a little outlay in building ice-houses and securing a stock of ice, where it can be had so easily and so cheaply as in the vicinity of all the fishing stations. I am yet in hopes that the fishermen of Cape Breton will follow the example of those of the western parts of the Province in putting up ice for this purpose, and thus securing themselves against certain loss for want of fresh bait at proper times.

The stormy weather which prevailed during the fall months also proved a serious drawback to the prosperity of the fishing industry. The storms were severe and frequent, and in many instances did serious damage to wharves, boats, vessels and other property. I attribute the decrease in the catch of the north-eastern section of the Island largely to this cause; all fishing in that district being done in boats, and these in many instances could not be launched for weeks in succession. The falling off in the number of men engaged fishing in the County of Inverness during the year 1890 may be accounted for by the fact that the successive failures of 1888 and 1889 discouraged many who used to engage in fishing, but looked elsewhere for employment, and this they found on the railway then under construction through the Island.

COD.

The returns show an increase of about 23,895 cwt., notwithstanding a great scarcity of bait in the majority of the districts. Never did a more stormy season prevail than in 1890. A succession of gales was felt during the months of September, October and November, from which fishermen on the north-eastern coast of the Island suffered greatly. This was unfortunate, as during the autumn, cod fish were found in large numbers on the numerous banks adjacent to the shores; and had it not been for this blustering weather, fishermen on that section of the coast would have done well.

There is no doubt but the supply of cod is inexhaustible, and if our fishermen would adopt the plan of keeping a stock of bait on hand, by means of ice, the returns would be more than double what they are now.

MACKEREL.

There is a decrease of 1,121 barrels of mackerel for the year 1890, as compared with the previous year. The shortage is, no doubt, due to a scarcity of these fish on our coast. Mackerel, like herring, are a very timid fish and are easily diverted from their natural course. Very few of the spring run entered the bays and harbours. The reason of this is not understood by the fishermen. It may be that climatic changes, or currents, had something to do with these fish keeping away from their usual haunts inshore.

The fact that they were plentiful on the coast last year shows conclusively that the supply is not exhausted.

HERRING.

Though the catch of herring in some localities was not abundant, yet the total result in this standard branch of the fishing industry exhibits an increase of 4,856 barrels over that of the previous year.

There are three distinct kinds of herrings frequenting the waters of Cape Breton Island :

1st. The spring run, so called, because the fish are caught in the early part of the season, during the months of April and May—a small and lean fish, only used for bait, some fresh—the bulk being salted down for lobster and mackerel bait.

2nd. The summer run, caught in the early part of June and July and sometimes in August. A large, fat herring, which, when well cured, none are richer in quality nor sweeter to the taste.

3rd. The fall run, caught in September. A large fish in size, but not nearly so fat as the summer or July herring ; but of fair quality.

These three kinds of fish being different, it will be seen that no uniform system of curing will answer, and that methods suitable to each kind, season and quality must be adopted to give the most satisfactory results.

Our spring herring have little commercial value. Some restrictive measures or regulations should, however, be adopted to prevent its wholesale destruction, as is sometimes the case when they strike in large quantities and are used for manuring purposes. The question of raising the standard of our summer herring is one of lasting importance to the country, and the attention and consideration given to this subject by your Department is in every way praiseworthy and must result in great advantage to an important fishing industry.

That our fish is greatly under-valued, is best known to those who have been fortunate enough to taste some thoroughly-cured Cape Breton summer herring ; and it is much to be apprehended that this low estimation is largely due to causes instanced by the Montreal Board of Trade—bad preparation and frauds practised on buyers.

I believe that were the fishermen of this coast to give better attention to the curing of their herring, and place them on the markets in thoroughly good order, after carefully culling and grading them, the result would be an increase in public appreciation of this article of food which would prove highly satisfactory and remunerative. These remarks apply with equal force to the September herring ; but as they are caught at a time of the year when they are not so likely to spoil, the same amount of care in curing is not expected.

The July run of herring are most delicate and sensitive to the influence of the sun and summer heat. These fish are caught in the hottest season, and when exposed to the sun for even a few minutes, any damage done them at this stage cannot by any possible attention be overcome. This does not apply to our fall or September herring, and I am of the opinion that the Scotch method of curing applied to these would be the best that could be pursued and calculated to bring about most satisfactory results. In the curing of these fish, the utmost pains should be taken to keep them from sun and rain. I have, time and again, pointed this out in former reports. Herring exposed to the sun or rain, for even a short time, cannot afterwards be well cured. All experienced fishermen will admit that even a slight shower is quite as injurious to these fish as a little sun. The latter only injures the surface, while the former affects the whole body.

This class of fish are said by fishermen to be the most timid of the finny tribes. This is proved by the fact that where they could be had in abundance thirty years ago they are hardly seen now. It is claimed that nets and lobster traps frighten them off shore. It is also contended by old and experienced fishermen that were nets and traps taken up in daytime herring would be found more plentiful in our bays and harbours.

SALMON.

The returns for 1890 show an increase of 24 barrels pickled and 17,442 pounds fresh in ice over the yield of 1889. This increase occurs mainly in Inverness County, where the best spawning grounds are located. No doubt, these fish, like other kinds,

are subject to periodical fluctuations, caused by the influence of wind, rain and currents, over which human agencies can exercise no control; but one thing is noticeable—that while, during the months of June, July and up to the middle of August, salmon may be scarce off the coast, they never fail to put an appearance during the autumn season in search of spawning grounds in our fresh-water streams. This fall, the various rivers frequented by them were unsually well visited, which is a good indication of the supply being well kept up.

HALIBUT.

There is a falling off this year in the catch of halibut, amounting to 19,266 pounds. It appears that year by year, these fish are becoming scarcer in our coastal waters. Their disappearance is attributed to the use of trawls.

ALEWIVES.

There is an increase of 491 barrels over that of last year. These fish are mainly taken by residents on inland streams. They appear in the spring season, when there is a scarcity of other fish, and therefore form a staple article of food for home consumption. They are also used by native fishermen for bait.

HADDOCK.

There is an increase of 3,576 cwt. over that of the previous season. This increase occurs in the County of Richmond, where the fish were unusually plentiful during the months of June and July.

SQUID.

The decrease of 2,981 barrels in the yield of squid, a fish exclusively used for bait, accounts to a great extent for the falling off in the cod fishery in the districts where no squid were taken. These fish were undoubtedly prevented from visiting our coast by the high winds which prevailed most of the season; *their absence being most noticeable* on the most exposed parts of the coast.

LOBSTERS.

The marked increase of 217,344 cans of lobsters over the pack of last season is the most noticeable feature of the year's fishery. This increase is due to three causes; the large number of these crustaceans found on our coast during the season, the extension of ten days' fishing granted by the Department, and an increase in the number of lobster factories in operation. The increase in prices was of great advantage to large dealers more than to the fishermen, as prices advanced at the close of the season. There is a prevailing impression that this fishery is overdone to an extent which threatens its extinction; but so far as this district is concerned, and from past seasons' experience, the increased quantity taken points to an opposite conclusion. The fact that competition is increasing, consequent on an advance in prices, and that cash is paid by nearly all canners on delivery, tend to lure fishermen from other branches of fishery to that of the lobster. Having dealt with this subject in previous reports, I do not deem it necessary to discuss it here at greater length.

CONCLUSION.

Until quite recently, indeed until the increased demand for coal at Montreal and other points along the St. Lawrence induced the employment of steamers to freight coal, the fish products of Cape Breton Island were marketed at Halifax. The facilities now offered by these steamships has induced the preparation and shipping of a large

proportion of the catch of herring and codfish, hard dried and green, to the St. Lawrence markets. It is, however, with deep regret that I learn that through carelessness in preparing their herring, our fishermen greatly depreciated its value and almost lost the benefit of the unlimited market of the Provinces of Quebec and Ontario. It is to be hoped that the dissemination of the views of experts and of the report of the Commission of 1889 will bring about an improvement.

There can be no doubt but if compulsory inspection were vigorously enforced, a marked improvement in this regard would fellow. None of our dealers have yet undertaken the putting up of shredded or boneless fish, in which a most successful business could be done, the demand being constantly growing, as is seen by the large quantities put up in Gloucester, Cape Cod and other American stations. I observe that in the western part of this Province a good deal of attention is being given to this mode of curing, and it has been found remunerative. If, instead of the practice now followed, of each fisherman curing his own catch of herring and cod, he could be prevailed upon to sell fresh and let the dealer cure, I believe we would have a better preservation of herring, and that the process of putting up boneless and shredded cod would be profitably prosecuted to the advantage of both fishermen and dealers.

I am looking forward with interest to the effect which the completion and operation of the Cape Breton Railway will have on our fishing industry. Heretofore, we have been debarred from competing in the inland and city markets for fresh fish, which I have long thought could be most successfully pursued by the fishermen of this Island were the necessary facilities, in the way of railway communication, available.

I have the honour to be, Sir,

Your obedient servant,

A. C. BERTRAM,

Inspector of Fisheries for District No. 1.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS FOR THE ISLAND OF CAPE BRETON.

CAPE BRETON COUNTY.

Overseer Francis Quinan, of Sydney, reports the total catch below the average of previous years. Salmon and herring gave better returns, but all other kinds of fish show a decrease. Mackerel were scarce during the whole of the season. Codfish, although reported plentiful on several dates, makes but a poor showing in the total catch. Two reasons are assigned for this, viz., stormy weather and scarcity of bait. The shore fishermen of this district are by no means "masters of the winds and waves," but the overseer thinks they could provide against the frequent occurrence of want of bait. There was a falling off in the catch of alewives, owing to the ice remaining on the coast until late in the season, and to prevailing easterly winds. The yield of minor kinds of fish is under the average; parties being employed at other work which paid better. With regard to the lobster fishery, the catch, although smaller than that of last year, was fair. The fishermen had to contend against a succession of storms, which destroyed 30 per cent. of the traps. There are three factories in this district, and the lobsters taken were good, both in size and in quality. The law was well observed, the managers of factories showing a desire to comply with the regulations. Packing commenced on the 17th May.

Overseer Alex. McDonald, of East Bay, reports a decrease in the catch of mackerel. These fish were scarce during the spring season, and the fall mackerel fishery was a complete failure. This was a great disappointment, as well as a serious loss, to a large number of fishermen, who were prepared for this fishery to a greater extent

than usual, owing to the fair market prices realized. The herring fishery, also, was below the average. A poor summer run of these fish is the cause of the small catch.

The cod fishery shows better than any of the other branches, and fishermen who prosecuted this branch exclusively have done fairly well. There was a smaller number of fishermen engaged in the cod fishery than last year, which is to be regretted, in view of the failure of the other branches.

The lobster fishery, considering the unusual stormy weather of the season, was good. Lobsters were plentiful and of good quality, and in every respect compared more than favourably with previous years. The fishing industry of this district is not prosecuted so extensively as in former years. Farmers living on the rivers and bays seek employment on the railway or at the mines, where they receive good wages. The inland fisheries of Mira River and East Bay have thus been greatly abandoned. The rivers were well protected, and there was a large run of salmon during the month of October. A greater number were taken from the Mira River for the Sydney hatchery than during any previous year.

Overseer William Burke, of Mira Ferry, reports a slight increase in the catch of cod and salmon, but a noticeable decrease in that of mackerel and summer herring. The July or summer run of herring was a complete failure in Mira Bay, where hundreds of barrels have been taken in other seasons. The fishermen cannot assign any plausible reason for this scarcity of fish. The failure of this branch of fishing will be keenly felt by those who combine fishing with farming. The Scattari Island fishing was good, particularly for cod and lobsters. The local fishermen of Mira Bay complain that fishermen from western Nova Scotia and some eastern ports monopolize the Mira Bay fishing grounds with their vessels, and do much injury to nets, as well as ruining the boat fishing. They want the Government to protect these grounds from outsiders.

COUNTY OF INVERNESS.

Overseer D. F. McLean, of Port Hood, reports that the statistics contained in his returns show a considerable falling off in the yield of fisheries, with the exception of salmon, trout, smelts, oysters and lobsters. The principal cause of this decrease is attributed to a scarcity of bait during the greater part of the season. Squid, which is the chief article used for bait, could not be had on this coast at all. The impression gains ground that year after year all kinds of fish keep further off the coast, and that herring, mackerel, cod, haddock and hake spawn in deeper waters than previously, so far off that fishermen find it difficult to prosecute their calling with small boats. That seining has, to some extent, been the cause of this decline, cannot be successfully contradicted. The protection afforded salmon and other fish frequenting rivers for the purpose of spawning is already beginning to bear its fruit. An increase is quite noticeable in the several branches of the fisheries protected by close seasons. Salmon now enter fresh-water streams much later in the season than during the past five years. A large increase was noticed ascending the river to spawn, as compared with the previous two years. Oyster fishing was very fair, and a material increase is noticed in that branch of our fishing industry. There were five lobster factories in operation during the past season. Two persons obtained licenses to set trap nets in the vicinity of Port Hood, and the result was a failure—that is to say, as far as catching fish was concerned. John H. Murphy was one of the parties who obtained a license, and the result of his catch was as follows:—

Mackerel, 9¾ bbls.,	valued at	$126
Herring, 10 do	do	9
Codfish 3 cwt.	do	7
Squid, 13,800 lbs.	do	197
Totals		$339

The other party holding a license was A. W. Morrison, and his returns show the following catch:—

Mackerel, 15 bbls., valued at	$100
Squid, 8,000 lbs. do	100
Total	$200

Overseer David Ross, of North-East Margaree, reports an increase of 700 barrels of mackerel over last year's catch. From the beginning of the season, until about the 1st of July, cod fishing was exceptionally good; but from the latter date until the close of the season, that branch of the fishery was almost a total failure. Notwithstanding the failure of the cod fishery during five months of the season, the total catch exceeds that of last year. Salmon net-fishing also shows an increase, but angling was not good. The close seasons were well observed, and the spawning grounds well supplied, judging from the large number of parent fish which ascended to the head waters of rivers during the autumn.

Overseer James Coady, of South-West Margaree, reports a decrease in the catch of codfish and haddock, chiefly due to scarcity of bait and blustering weather. The lobster statistics show a decrease, owing to only one factory being operated. The factories at Margaree Harbour and Coal Mines were closed down during the whole season. The factory operated, however, did better than before; lobsters being more abundant and larger. Mackerel shows an increase of 293 barrels, herring 238 barrels and alewives 400 barrels. Salmon net fishing about the same as in 1889. Fly fishing was not good, although fish appeared to be abundant. The weather kept stormy and wet, and this was probably the cause why fly-fishing was so poor. All other kinds of fish show an average yield. The fishery laws were well observed, although great vigilance was necessary to protect the rivers.

Overseer Peter McEachern, of Glendale, reports an average catch. Codfish were more abundant at the close of the season than during the summer months. Nova Scotia fishing vessels purchased all the fresh herring and alewives that could be caught for bait, giving good prices for it. The demand for this kind of bait during the past season was greater than before, owing to squid being scarce. The rivers were well stocked with salmon and trout.

VICTORIA COUNTY.

Overseer William Bingham, of Englishtown, reports the catch of summer herring in Great Bras d'Or and St. Ann's Bay as remarkably good. St. Ann's Harbour was not, however, visited by large schools, much to the disappointment and loss of the harbour fishermen. Cod fishing was poor throughout the whole year. From the beginning of the season until well on into autumn, fish was remarkably scarce on the several local banks. Later in the fall they were more plentiful, but one north-east gale succeeded another, and the boat fishermen could not venture out with safety. Bait being also scarce, this helped to add to the failure of this fishery. The fishermen attribute the scarcity of cod on the banks to trawling by vessels and to fish offal being thrown overboard; thus polluting the grounds, causing the fish to seek purer waters elsewhere, and injuring boat fishing. Mackerel were exceedingly scarce. The cause is attributed to purse seining, which breaks up the schools and frightens the fish off from bays and harbours. A considerable falling off is noticed in the catch of salmon, and this overseer recommends the planting of fry in Clyburn's Brook, Barachois and North River. These streams are well adapted for fish-breeding. North-east gales did much damage to lobster fishing; nevertheless, the returns show a good season's catch. The two weeks' extension greatly assisted fishermen and packers, and this boon was much appreciated by all. St. Ann's and Ingonish Bays are great resorts for vessels in search of bait. Squid, however, was

scarce, owing to prevailing rough weather. This proved a great drawback to fishing vessels as well as to shore fishermen. The Fishery Regulations were well observed, there being only two violations of the law—one for spearing and the other for having small lobsters in possession.

Overseer Duncan McDonald, of Aspy Bay, reports a marked decrease in the catch of codfish. This is attributed to trawling on the banks, particularly during the beginning of the fishing season. Trawlers kept the outside banks well fished, and it is considered that if this system is not prohibited, fishermen in this district will have to abandon boat fishing altogether.

In the mackerel catch there is also a conspicuous falling off. The fish did not strike inshore in large schools. They appeared to be more plentiful outside, and vessels, hand-liners and seiners did well, particularly the former. Boat fishermen, who fished with hand lines, did well, some taking as much as thirty barrels. Spring mackerel were of good quality, and very fair prices were realized. The decrease in the catch of mackerel was owing to a scarcity of the fish in the fall.

Herring exhibits an average catch, and fishermen think that lobster traps may have had something to do in frightening these fish from the shore into deep water. Lobster fishing may be said to have been good, although one or two factories failed to open this seaton. The factories which were operated, however, found lobsters plentiful and large; but stormy weather did much damage to traps, and caused the loss of many days' fishing. The catch of salmon shows a falling off, which is attributed to unfavourable weather. The Fishery Regulations were well observed, only one case of illegal fishing being reported.

Overseer Donald McQuarrie, of Middle River, reports that very little deep-sea fishing is carried on in his division. There was an increase in the catch of herring. Alewives show also a large increase in some portions of this division. These fish were found more abundant in certain places than during any season for the past thirty years. The catch of salmon in Bras d'Or Lakes shows an increase over that of last year. The Middle and Baddeck Rivers were frequented by a large number of salmon. There is no midsummer run of these fish into either of the above-named rivers, but during the months of October and November large numbers ascend to the headwaters to spawn. Trout do not frequent the rivers in as large quantities as formerly. This may be due to changes in the river, caused by heavy freshets. The pools are neither so numerous nor deep as formerly. The law has been well observed. Guardian McKenzie has put a stop to poaching by Indians.

Guardian McKenzie, of Middle River, reports that Indians are inclined to violate the law, and that they require to be closely watched. They go up the river with canoes and spears, and as they are skilled spearsmen, extensive poaching was carried on. The white people have entirely abandoned illegal fishing in Middle River, more from fear of being caught than from a desire to comply with the regulations. A great run of salmon is reported during the months of October and November. These rivers kept high during the whole season which accounts for the increase in salmon.

RICHMOND COUNTY.

Overseer D. Cameron, of St. Peters, reports a decrease in the catch of mackerel and herring, but adds that this decrease is more than counterbalanced by an increase in haddock and lobsters. The haddock fishery shows an increase of 1,200 quintals and lobsters 35,428 cans over the previous year's catch. The partial failure of the mackerel fishery is attributed to seining vessels, which broke up schools on their first appearance on the coast; the fish then became scattered and disappeared into deeper water. The fall schools were few and small. There was a noticeable absence of codfish, but haddock were abundant, and the fishermen did well. The fishery laws were well observed, but illegal practices at the factories can only be checked by an officer being located at each factory.

Overseer Francis Marmeau, of Arichat, reports an increase in the catch of herring, mackerel, haddock and codfish; and had the weather not been so stormy

after the middle of September, the increase in the cod-fishery would have been greater. The market prices were good, and the fishermen of this district are in fairly comfortable circumstances for the winter. Referring to the lobster fishery, this officer says that, in the early history of the packing business, when the fishery was in the hands of large dealers, it was an easy matter to enforce the regulations and prevent packing during the close season. The business was then confined to factories where the local fishery officer had no difficulty in enforcing the law, as canning was carried on under this officer's eye. Now, however, it is very different; the average fisherman has become an expert in the canning business, and resorts to out-of-the-way places where he can engage in the illegal packing of lobsters during the close season These men receive supplies from factory proprietors, to whom they agree to dispose of their stock. The violators, in many cases, have the sympathy, not only of lobster packers, but of the inhabitants of the district, and it often becomes difficult for an officer to carry out the law. Happily, violators have in most cases been convicted and fined, which has had a wholesome effect on those engaged in this illegal business.

DISTRICT No. 2.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 2 OF NOVA SCOTIA, COMPRISING THE COUNTIES OF CUMBERLAND, COLCHESTER, PICTOU, ANTIGONISH, GUYSBOROUGH, HALIFAX AND HANTS, FOR THE YEAR 1890, BY INSPECTOR ROBT. HOCKIN.

PICTOU, 31st December, 1890.

To the Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit a report of the fisheries during the year 1890, within District No. 2, Nova Scotia, as compiled from statistical returns of local overseers, together with synopses of the reports of these officers of the various fisheries within their district. Comparative tables, showing the increase and decrease of the fisheries in each county, as well as the increase and decrease of each kind of fish, are annexed.

The following is a statement of the value of fish caught within this district each year since 1876:—

Year.	Value.
1876	$1,471,555
1877	1,477,735
1878	1,594,428
1879	1,330,521
1880	1,557,488
1881	1,561,719
1882	1,703,813
1883	1,788,242
1884	2,050,562
1885	2,295,915
1886	2,011,983
1887	1,954,476
1888	1,538,122
1889	1,367,854
1890	1,453,015

showing an average catch for the fifteen years of $1,677,162.

The value of the catch for 1890 is therefore about 13 per cent. below an average, but about 6 per cent. over that of last year.

There is a noticeable increase in the value of deep sea fish, the catch of mackerel showing an increase of..... $46,588
Herring, an increase of..... 8,689
The cod family an increase of..... 43,365

while the decrease has largely been in the value of anadromous fish; salmon showing a decrease of..... $27,837

Alewives, a decrease of		9,874
Smelts	do	3,210
Bass	do	1,352

COD.

The increase in the catch of these fish is partly due to a more vigorous prosecution of the fishery, caused by better prices, and the fish being more abundant.

MACKEREL.

There is a gratifying increase in the value of the fish, as shown by these returns. The fish taken were of excellent quality, and much better prices obtained than formerly.

HERRINGS.

The returns show a slight increase in the catch over last year of 2,000 barrels. The noticeable features are, that last year Guysboro' reported an increase of about 50 per cent. and Halifax a decrease of a like proportion; this year these figures are reversed.

In the valuable and exhaustive report of the delegates appointed to inquire into the herring fishing industry, there are two important points raised, that the inspection of fish, which it is recommended should be compulsory, and the inspection of barrels. I cannot find any desire among fish dealers for compulsory inspection. A large trade is carried on in lean fish, which, being devoid of fat, keep well in hot climates, and the fat July herring are not sold for the same trade. While under inspection, the lean fish would be branded inferior, while it is, for its particular trade, a No. 1 fish. It is suggested that were packers compelled to brand their own names upon the packages, that so far as the fish are concerned, this would meet the demands of the trade; but all agree in saying that there should be a rigid inspection of fish barrels, and that the regulation barrel should be of $\frac{3}{4}$ inch spruce or larch, free from sap, with sixteen hoops; hoops not to be narrower than $1\frac{1}{8}$ inches at the narrowest part. It is further suggested that if all persons were prohibited from branding or stencilling fish as Prime or No. 1, Crown Prime, &c., or any other classification than that they were herring put up by A. B., and if officially inspected herring were conspicuously marked, the public would soon appreciate an inspection, if properly done.

LOBSTERS.

Throughout this district, there has been a decline in the catch as per schedule rates of about 10 per cent. from that of 1889, which exceeded that of 1888 by about 17 per cent. The accepted theory is, that the lobster is a coast animal, receding into deeper waters during the winter, to return with a rising temperature; and that over-fishing in one locality will not materially affect any other locality. The returns, this year, seem to lend additional weight to this theory. Throughout those portions of the district where the law has been strictly observed as to season, and upon the whole fairly so as to size, the returns show that to the same number of traps there has been an increased yield—the Straits of Northumberland, for instance, showing an increase of $8\frac{1}{3}$ per cent. over last year, while upon the southern shore of Halifax the decline has been 10 per cent., and upon that part of Guysboro' most favourable for poaching, the decline has been 16 per cent., while other parts of the coast so exposed that illicit trapping could not be carried on, the fishery held its own. It would therefore seem that were the present law observed, it would preserve the fishery.

Of the various suggestions and schemes to bring about that result, the writer favours that of prohibiting canning lobsters except by license, that licensed canners be required to stamp their cans with a registered stamp; and that lobsters put up in cans not so stamped be liable to seizure by customs or fishery officers. Special

regulations would, however, be required, to permit the importation of lobsters canned in Newfoundland.

Experienced canners say that fresh fish caught during the autumn months are watery, and do not possess the flavour of summer fish. They also contain more of an alkali which blackens the can and then the fish. The placing of such goods upon the market is claimed to be pernicious and injurious to the whole business. It will be observed that if a licensed canner put up this grade of fish, it could only injure his special brand. Another important feature is, that three fish in the autumn do not equal in bulk for canning purposes two of them in the spring.

In order to enforce the law, in addition to the active service of the cruisers, which did much to check the illegal business this year, the employment of special guardians, under vigilant overseers, will be necessary upon the Atlantic coasts. The licensing of canning establishments would yield a revenue sufficient to pay for daily inspection by fishery officers—the only practicable way of controlling the size limit,—and even then there would be a danger that it might simply become an additional tax upon the canner. The present size law, with the present force, can only be valuable in so far as it is educational.

SHAD.

The shad fishery of this district is confined to the counties bordering upon the Bay of Fundy, viz., Hants, Cumberland and Colchester. Ninety-five per cent. of all the shad taken during the past fifteen years have been in the waters of the Basin of Minès, Cobequid Bay and Cumberland Basin; and of the remaining 5 per cent. it is probable that 3 per cent. have been taken in Shubenacadie River. These fish are caught in the river by means of nets set in eddies along the shore when the water is high, or set one-half or two-thirds across when the water is low. In the bay they are caught by means of weirs and drift nets—that is, nets allowed to drift up and down in the strong tides of the Bay of Fundy. The time of fishing in the rivers is the last week in May and first week in June, but not later than 15th June. In the bay shad were formerly taken from 20th June, but in later years there are scarcely any taken till the middle of July.

The history of this fishery has been one of rapid decline; the total catch for successive three years being:

1878-79-80	14,755
1881-82-83	13,037
1884-85-86	6,192
1887-88-89	17,777

The catch of 1890 shows a slight increase over the average of the three last years, being 750 as compared with 592 barrels.

The following table will show the decline in each year and the catch in each county:—

Years.	Hants.	Cumberland.	Colchester.	Total Barrels.
1876	528	1,078	1,980	3,586
1877	491	1,025	1,935	2,451
1878	795	1,051	3,083	4,929
1879	2,247	1,030	5,458	8,735
1880	2,016	683	3,392	6,091
1881	2,004	730	4,362	7,096
1882	1,630	647	1,000	3,277
1883	440	730	1,500	2,670
1884	503	868	916	2,337
1885	570	187	1,693	2,450
1886	695	172	538	1,405
1887	277	134	385	796
1888	170	106	171	447
1889	222	112	201	534
1890	228	160	362	790

To meet this decline, it is evident that legislation is necessary. Shad frequent the waters of the Bay of Fundy to feed upon what is called the shad-worm. The possibility suggests itself that this supply of food might become exhausted by large numbers of shad, and the locality require a period of years for the food to become abundant. This year, for instance, the fish appeared in abundance early in the season, but remained only a short time. The theory has been advanced that the shad taken in the bay are not the result of spawn deposited in our rivers, but in rivers further south, and that there is no necessity for legislation affecting the spawning season. While it may be possible that all the fish that come into the bay did not spawn in our rivers, still I see no reason for believing that they are not contributing nurseries of the fishery, and that some remedial legislation is necessary. Nearly all the shad taken in Shubenacadie River, for instance, are full of spawn, and the fish ascend the river for the purpose of depositing it. There is, therefore, an immense destruction of ova, and at the very lowest calculation, the catch this year, of 164 barrels, in this river alone, must have destroyed 50,000,000 of ova. Of course, the conflict is between the inhabitants along the river, who have been in the habit of taking shad, and those fishing in the bay. I know of no reason that would prevent all from participating in the bay fishery, except the inconvenience of residence. To adopt a law entirely prohibiting the catch of shad in the rivers would, of course, be felt severely by those who have been in the habit of catching the fish; and the enforcement of such a law would be expensive and difficult, because it would fall entirely upon the officers, and would not be supported by the residents along the river. The alternative would be to make a close season during May and June for three years, or to extend the present season, which begins at sunset on Friday evening and ends at sunrise on Monday morning. Of the several courses, I would prefer the latter, making the close season to begin at sunset Wednesday evening and ending at sunrise Monday morning.

SALMON.

The returns show a large decrease in the value of the catch of these fish, the total value being:

For 1889	$85,113
For 1890	57,276

I am satisfied that this decrease is more apparent than real. First, fully 5,000 barrels falling off is attributable to the withdrawal of vessels from the Labrador fishery, while the apparent decline of $15,000 in the returns from Pictou County requires explanation. Last year, owing to the death of the overseer in the fall of the year, the duty of collecting statistics had to be placed in inexperienced hands, and the return of salmon showed an increase of 50 per cent. over that of 1888. This was questioned at the time by the Inspector, but he was assured the returns had been carefully compiled. However, from interviews had with fishermen from the locality, I am of opinion that this abnormal increase of 50 per cent. over 1888 cannot be accepted as established.

The returns this year were regularly made by the overseer appointed, giving the names of the persons catching the fish and the quantity caught by each. Upon the whole, there has been a considerable decline, notwithstanding the large expense involved in promoting this valuable fishery. Inquiry, however, makes one wonder that this decline is not greater. I made the remark in my last annual report that several things in nature pointed to the fact that the headwaters, brooks and streamlets of a river are the nurseries for this fish. First, we have the gravid fish ascending a river as far as it can find spawning grounds, and the young fish when spawned and passed the fry stage and acquired strength to swim, instinctively heading up stream, where it not only finds the food to sustain itself, but also where there will probably be fewer predacious fish which feed upon them. Further consultation confirms me in this opinion, which I look upon as important, because of the bearing it has upon legislation for the preservation of the fishery, as well as indicating how far artificial cultivation has assisted in maintaining it. Take for example, the salmon fishing in

the Straits of Northumberland, of twenty-seven important rivers, which at one time were the nursery of this fish. I only know of four that are unobstructed by mill dams, a short distance above tidal waters, and these unprovided with fish-ways. The unobstructed rivers are the East, West and Cariboo Rivers, in Pictou County, and the West River of Antigonish County.

In view of this, it is difficult to understand how the fishery has been kept up, if not by the deposit of fry in the rivers flowing into these waters.

Pursuant to instructions, I reported what fish-ways were necessary in this district. I have found, and so reported, that about ninety-five fish-ways are required; the total cost of which would be covered by one year's catch of salmon alone, apart from other considerations of the acknowledged effect anadromous fish have upon the coast fisheries.

With the opening of rivers, the next matter of importance is the protection of fish during the spawning season. Where permanent wardens have been replaced by special guardians, appointed from time to time, it has shown to have been a step in the right direction, and has an electrifying effect upon the officers.

FISH-WAYS.

Upon examination of the fish-ways in this district, I found that of those constructed fully 90 per cent. were not at the time of examination in such a condition as to allow fish to pass within spawning grounds, and that they were not fulfilling the purpose for which they were intended. These structures, as built, extend from 80 to 100 feet into the pond above a dam, and slope from the bottom of the dam to nearly the surface of the water. They, therefore, present a large area of surface, which requires to be water-tight; the ice, too, forming under them, has materially injured some; others have been torn by freshets; many were found choked by débris, or the openings were not adapted to the height of water in the dam. With those fish-ways that could be repaired, notice has been served upon the mill-owner to do so, and in most cases this has been done; there are some, however, that it will be cheaper to build anew than to go to the expense of repairing. A system of weekly returns from the fishery officer living nearest to the fishway has been adopted, and during the spawning season, the Inspector is kept informed as to the condition of each fish-way. Deciding that the great defect of fish-ways in use was from the fact of their being fed from the surface, and that it would be of great value if one could be obtained that was fed from beneath, I instituted a series of experiments last winter with this object in view, and succeeded in inventing a pass which is a simple solution of the difficulty. It may be shortly described as a hole in the bottom of the dam, with the velocity of discharge so reduced that a fish may contend against the current and swim into the pond above. It consists of a series of compartments, having approximately a level floor, with side walls, ends and transverse partitions (every 4 feet of its length), from the bottom of the dam to above the water line; these compartments, connected with one another, and with the pond above and the river below the dam, by submerged apertures approximately on the level and preferably in alignment for the passage of fish. The water in the several compartments will be lower, step by step, from inflow to outlet, and will flow out of the last aperture under a head of about 2 feet (it can be made less), and therefore with so little velocity that fish can swim into the first compartment and into the pond above.

Here, then, is a fish-way which is not of very great length, 28 or 32 feet, sufficient for any average dam. It is built from the bottom of the pond up, so that ice cannot form under it nor raise it, and from its structure with partitions every 4 feet it is, necessarily, strong and compact. Freshets can make no torrent through these passes and tear them out. The apertures being submerged, cannot be choked with débris, and they can be so far removed from the bottom as to obviate any danger from that source. What is perhaps most important is, that it adapts itself to the height of water in the dam; for so long as there is water in the dam, the fish-

way will be supplied. The importance of this will be recognized when it is remembered that a fish-way has no friend in the mill-owner, and that the maintance of the public rights of free access to spawning grounds by fish depends upon the vigilance of fishery officers.

The velocity of discharge being so reduced, the loss of water does not materially affect the mill-owner.

Plate I. gives a side view of the fish-way as constructed, with aperture of discharge under the water in the river below the dam. Hereunder, the darkened shadows of the dam the light shining through the aperture is quite noticeable.

Having submitted models and descriptions to the Department, I was honoured with permission to prescribe this form for a fish-way. Four of them have been put in; the first in Cumminger dam, Melrose, Guysboro' County; one at Doyle's dam, Tidnish, Cumberland County, one in the Rhino dam, and one at the foot of Little Indian Lake, in Halifax County. Had the season not been so wet, others would have been constructed.

Plate II. shows the heights the water attained in the several compartments in the fish-way on Cumminger dam, and Plate III. in the fish-way on Doyle's dam. In the latter fish-way, the partitions were spaced to suit the upright support as of bridge. The aperture was oval shaped; 11 inches high and 9 inches wide. In the Cumminger dam it was 9 inches high, 7 inches wide and of the same shape. Of the fact that fish will go through them, I have the statement of Thomas McKim, Warden, Melrose, that he has seen them go through with a full head of water in the dam. I have myself seen them go through, but there was not at the time a full head in the dam. Residents in Tidnish say fish have been seen to go through, and indeed any person examining one, as constructed, must see that there cannot be a shadow of doubt as to its efficiency.

It has met the approval of Mr. Wilmot, Superintendent of Fish Culture, and of Col. Marshall McDonald, Fish Commissioner of the United States, at Washington. Arrangements are about completed for their construction in Massachusetts, and I have a patent for Canada and the United States.

During the year the following rivers have been cleared, so as to allow fish to have access to the headwaters, viz., Country Harbour River, Guysboro; St. Mary's River, below Two-Mile Lake; St. Mary's, East Branch, below Garden Lake.

The work of the Inspector for the year past has, besides the time devoted to overseeing the building of fish-ways and the preparing of reports upon subjects referred, involved correspondence covering 915 pages of letter book; traval by rail, 3,295 miles; travel by road, 1,458 miles.

I have the honour to be, Sir,

Your obedient servant,

ROBERT HOCKIN.

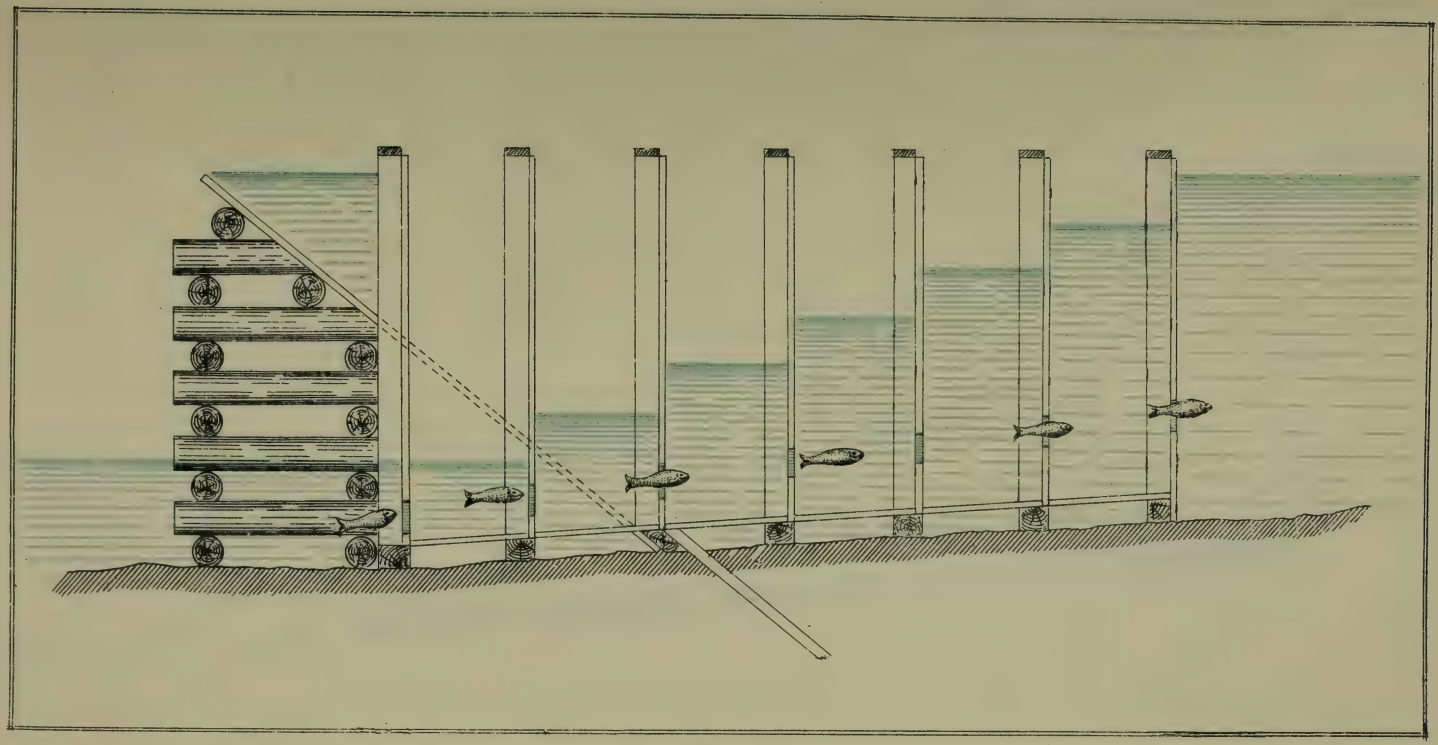
Inspector of Fisheries for District No. 2, Nova Scotia.

SYNOPSES OF OVERSEERS REPORTS.

ANTIGONISH COUNTY.

Overseer John McDonald, Doctor's Brook, states that the fishing season was a discouraging one to the fishermen. Two new lobster factories were started in Arisaig Cove. Owing to the want of good fishermen, they did not succeed well and one of the boats was unfortunately wrecked in the storm of 1st December. Hake were abundant, and remained on the coast during the greatest part of the season; but fishermen

PLATE I.



SCALE 1/6 INCH = 1 FOOT

PLATE II.

Side Section of Hockin Fishway as constructed in Cummingers Dam, Guysboro Co., N. S. Lines in red showing actual hight attained by water in the several compartments.

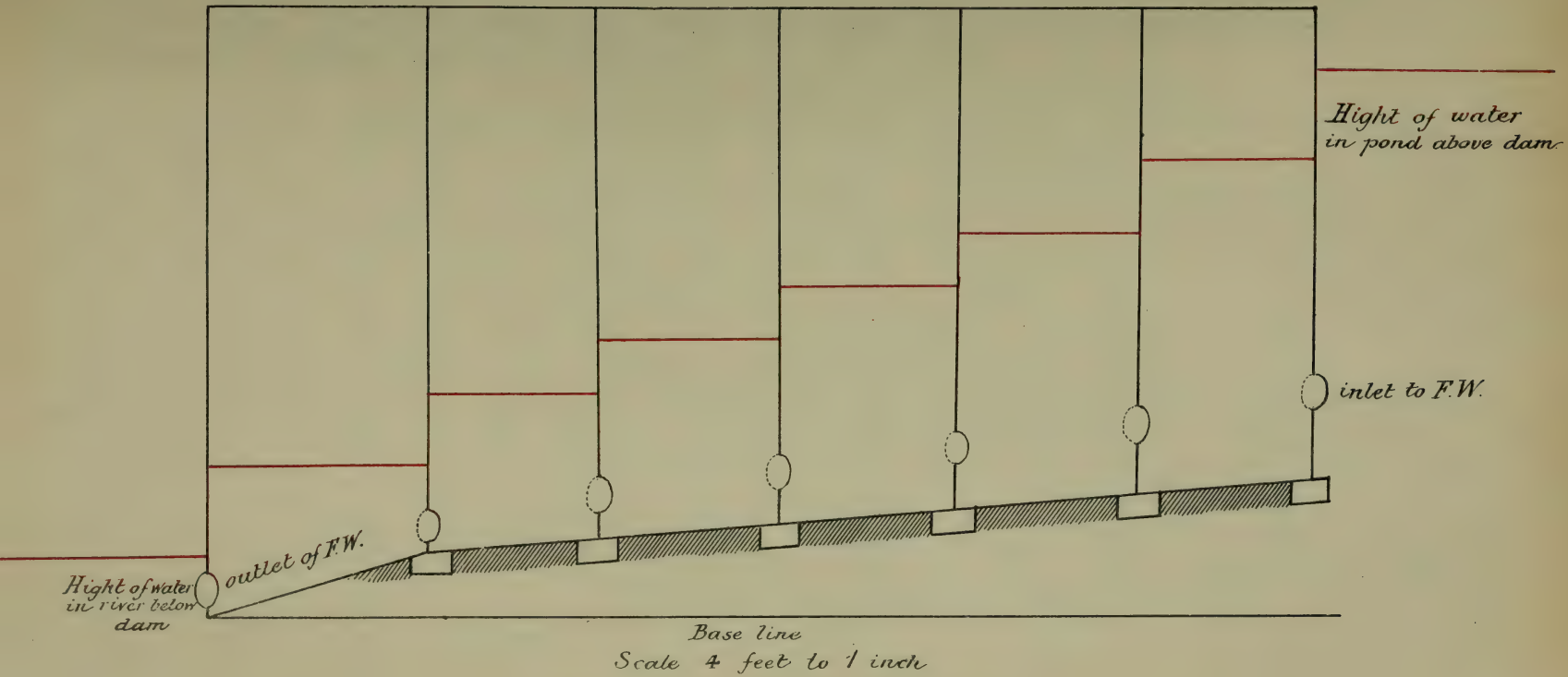
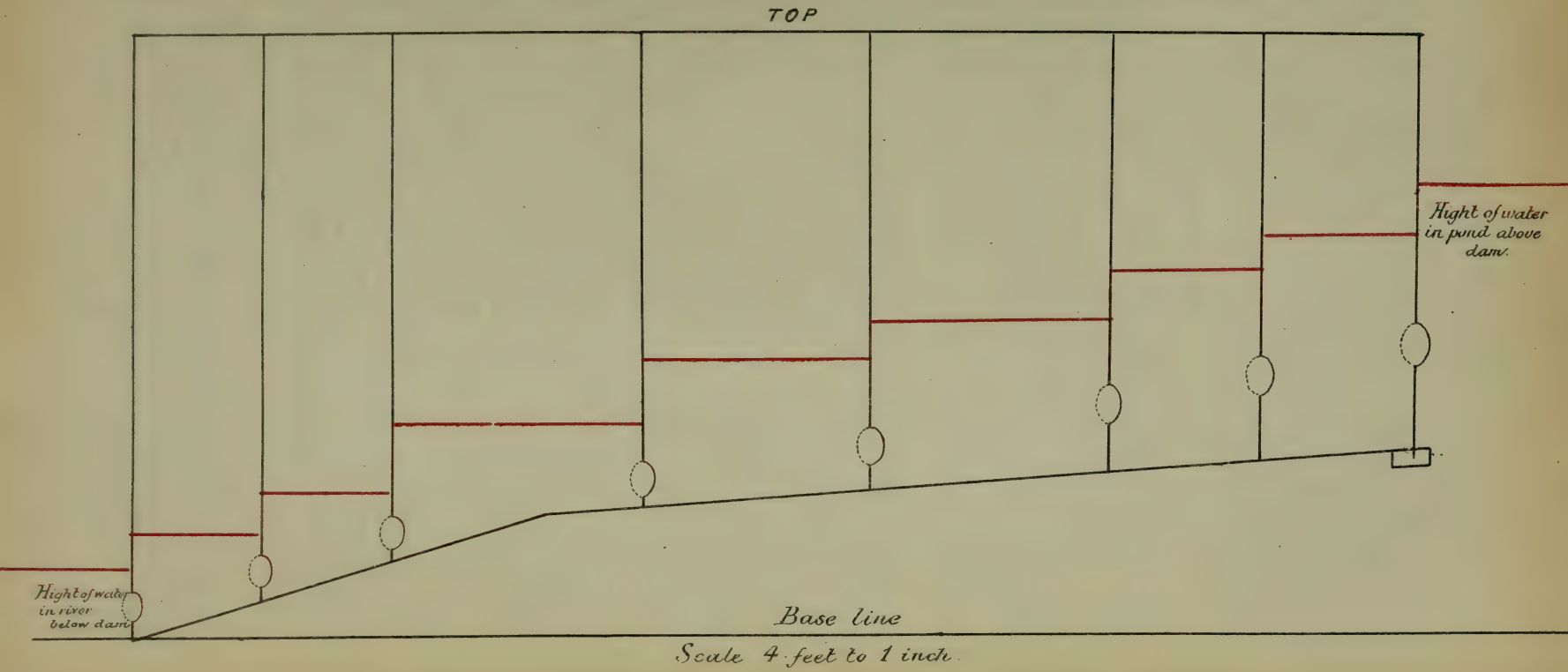


PLATE III.

Side section of Hockin Fishway constructed at Doyles dam Tidnish, County of Cumberland, Nova Scotia, built at the same time and made part of a Road-Bridge : compartments adapted to the upright supports of the bridge. Lines in red showing hight attained by the water in the several compartments also showing incline given to fishway to adapt it to the grade.



could not secure bait enough for more than one night in the week. Herring were abundant in the spring, but not fished for except for bait. Summer herring did not appear at all. Having been informed that parties were racking oysters at Tracadie during the close season, this officer visited the locality, when he found an old scow and other oyster fishing implements and had them destroyed; being satisfied of their having been illegally used shortly before. He also destroyed a net found set right across James River. Many fishermen lost boats and valuable gear in the storm of 1st December, which they will not be able to replace, unless fish become more plentiful than for years past.

COLCHESTER COUNTY.

Overseer H. Gass, Tatamagouche, reports salmon scarce in the rivers this year, owing to the dredge boat working in the channel. Attempts at poaching were made by boys and irresponsible parties, but this was generally pretty well stopped. The fish-way at Balfour's mill is out of repairs, and the owner will not repair it.

Overseer R. J. Pollock, Lower Stewiacke, says that shad and salmon are on the increase in Stewiacke River; the catch being nearly $300 in excess of that of 1889. The close season was well observed and carefully looked after. Poaching was done by some parties spearing nine or ten miles up the river. Three of them were fined, one of whom occupies a high position in the community, and his example to young men in this respect is not what should be expected. The returns do not show any fish caught above the Middle Stewiacke Bridge.

Overseer J. W. Davison, Upper Economy, reports a small increase in the shad catch of the previous season, but it is small when compared with former years. There is little to encourage fishermen to make preparations for next season. Few shad were seen until 8th July, when quite a school struck into Five Islands; one crew taking, 3,000 in one day and another 1,000. There was quite an excitement among the fishermen, but it lasted only a short time, as this was the only catch worth mentioning for the season. Shad were not plentiful throughout the bay, and disappeared quite suddenly in the latter part of July. This is held to be a bad indication for next season's catch. The great decrease in the catch cannot be attributed to over-fishing, because the apparatus used are small when compared with former years. No doubt, this has had something to do with it; but for a number of years, while the yield in the bay is not one-tenth of what it formerly was, the catch in the rivers during the spawning season has been on the increase. Neither is it reasonable to suppose that there will be a speedy return of these fish, when they are altogether unprotected during the time of breeding. There should be a close season, both in Nova Scotia and New Brunswick, during the spawing season. Were this done, there would soon be a return of this valuable fish. Shad sold readily at $12 a barrel, shipped to Philadelphia, and re-sold at a profit, after paying duty and freight. This officer is of opinion that shad which go up our rivers are the parents of those caught in the bay. Doubtless, these shad stock some waters, and it seems natural they should return to their native haunts. Early in July, in the weirs set on the flats, there is quite a number of very small shad, some not more than 2 inches long, mixed with the large ones. These have evidently come from the rivers. Salmon are taken while fishing for shad. As that fishery closed much earlier this year, fewer salmon were taken. The close season for salmon has been pretty generally observed, and the overseer thinks that the number of those who would break the law is becoming smaller. There are now no fish-ladders in this division; formerly there were a number of the old style, which are all gone, and should be replaced.

CUMBERLAND COUNTY.

Overseer A. M. Wills, Puguash says the smelt fishery in his division was almost a failure; not in quantity, but in size. The run was abundant, but the fish were too small for market. In many cases, nets raised contained from one to two tons of fish, and not one out of ten more than 4 inches in length. This shows that the regulation net of 1¼ inch, extension measure, is valueless as a preventive against

the taking of young or small smelts. The main abuses to the fisheries were caused by mill refuse, old trees and sawdust. All the oysters taken in this division were caught in Pugwash River, and men who were raking there reported acres of grounds in the river so covered with sawdust they could not get their rakes down. There are three fish-ways in this division—one at Doyle's mills, and two on the Shinimicas. That at Somer's mills is in good order, but the one in McPherson's mills is choked. A fish-way is required in Comer's mill-dam, on the Pugwash River.

Overseer Wm. Murphy, Wallace, reports that canning lobsters began on the 5th May. Lobsters were then plentiful and of excellent quality. Some of the largest catches were made in May. During June, stormy weather and heavy winds caused the fish to leave the shore, and the result is a falling off of 8,200 cans from last year. Herring were abundant, and the catch about the same as last year. Smelts, a total failure; most of the fishermen not making enough to pay for their license. A great deal of dissatisfaction exists with regard to smelt licenses. Fishermen think it unjust that they should be compelled to pay license fees when wealthy lobster canners pay none. About the same quantity of oysters were taken as last year. Alewives were abundant, more so, in fact, than for the last twenty years; but very few can be taken with mesh nets, and seines are prohibited. Salmon appeared in September, when the river was high, and they passed right up over Rhindress and Seaman's dams in October.

GUYSBOROUGH COUNTY.

Overseer Jas. A. Tory, Guysborough, says that in his district fishing as a whole was fair, although in some portions, it fell short of other seasons. Smelt and eel fishing have become a new enterprise. The squid fishery is prosecuted for the purpose of supplying bait to bankers, and the demand has exceeded everything heretofore known. The Newfoundland Bait Act has no doubt been instrumental in increasing this demand. The fishery is carried on by means of traps, and in no other way can the fishing be made profitable. There will, therefore, probably be increased applications for trap licenses. Ice, too, is as necessary to the bankers as bait, and this has been another profitable source of trade. Mackerel were abundant large and fat, averaging 140 to 160 to the barrel, and brought remunerative prices. More would have been taken, had fishermen been prepared with nets of a sufficently large mesh. Large bodies of small mackerel were seen on the shores, which bids well for the future. The falling off in the yield of herring seems to be generally attributed to a failure of the autumn catch. This season, nearly all the alewives were taken at sea along with the mackerel. There has been a falling off in the lobster catch, which will continne in a greater ratio year by year till that fishery is totally destroyed, unless protective measures are adopted. The increase in codfish and haddock may be accounted for by the fact that a larger number of persons were engaged therein, and as the prices were good, this led to a more general and determined prosecution of the fishery. Salmon and trout were scarce during the first part of the season, owing to the waters being low; but as soon as the autumn rains came on, they ascended in considerable numbers. Rivers generally are clearof obstructions, excepting the mill-dams; most of these are at a considerable distance in the country, and are not so injurious as if nearer the coast. At the same time, proper and efficent fish-ways ought to be erected in every dam.

Overseer Allan McQuarrie, Sherbrooke, says there has been an increase in the smelt and mackerel catch. The latter, however, is far below that of former years. There was a decrease in salmon, trout, lobsters and herrings. Many fishermen are of opinion that the taking of fall herring, when full of spawn, and consequently the breaking up of schools when on their spawning grounds, is productive of most disastrous results. The returns show a falling off of nearly 50,000 cans of lobsters. Spring being cold and backward, the fish kept in deep water, making the season two or three weeks shorter than the average. There are almost insuperable difficulties in enforcing the regulations for the protection of lobsters. In the main, this officer believes that factories are not in sympathy with poachers; but some unscrupulous traders

encourage the poorer classes to violate the laws. If caught, they have nothing of any value to lose, and to imprison them is to enlist the sympathy of the community. Many fishermen favour a close season from the 10th September, to continue as long as the weather will permit in the fall. This would enable them to attend to their farms, which remain neglected since the beginning of this fishery. Their fathers made more than half their living from the farms. Such a season might conflict with the interest of packers, but the interest of the fisherman is as important, if not more so. Codfish were abundant in the spring, but bait was scarce; and both fish and bait were scarce in the fall. The weather was rough and blustering, so that the average fall catch was unusually small. The inland fisheries were well protected. A decline in the yield of salmon is due to the ommission of vessels fishing in Labrador, which imported over 800 barrels of salmon in 1884. The fish-ways in this division are in good repair, and the new model placed in McKim's dam by Inspector R. Hockin is highly spoken of by the Wardens and others as being well adapted to the ingress and egress of fish and the saving of water. Warden John Smith reports having removed the obstructions at the head of Country Harbour rivers and that fish now have a clear passage from the tide to the grand lakes at the head. There are obstructions in Cooper's Brook, flowing into Wine Harbour, which should be removed. This could be done for about $40 This stream is a favourite resort for smelts and trout. The beach at Indian Harbour has been kept well opened out this fall, at a moderate expense. There is a dam being built at the head of the tide on Gaspereaux Brook, where Mr. W. H. Himlow, the owner, proposes to excavate an artificial fish-pass at the east end, which will answer every purpose, as there is a considerable fall from the dam to tidal water. During the year, there were taken in St. Mary's River some small salmon, apparently of a new species, and supposed to be from the hatchery on the Antigonish branch, Lochaber.

HALIFAX COUNTY.

Overseer John Fitzgerald, Portuguese Cove, reports that the decrease in lobsters, as compared with last year, was caused by stormy weather in May. Mackerel and herring were abundant in summer, but fall fishing was a failure. Fishermen complain greatly on account of seine fishing amongst their nets, as destroying them. They also blame them for keeping mackerel from striking the shore.

Overseer Geo. Rowlings, Musguodoboit, reports that in the early part of the season codfish were abundant. Many more could have been taken, but the large majority of boat fishermen seem to prefer lobster fishing, and several of them are not prepared for anything else. Those who own vessels and fish about Prince Edward Island and in North Bay have all done well in the cod fishery, but they caught scarcely any herring or mackerel—indeed, not half enough for bait; and they had to use clams in large quantities. There were not so many alewives caught as last year. The decrease in the case of Lake Porter is explained by the fact that the outlet through the beach was filled up for a time, and in addition to the loss in alewives, it caused a loss in the catch of smelts, large quantities of which ascend every fall and are taken through the ice. Since the outlet has been re-opened and dipping stopped, there is every reason to believe that the fishery there will be as good as ever. Salmon fishering along shore did not yield an average catch. The reason is ascribed to so many mill dams with poor fish-ways, and so much dipping about them. This officer suggests that the natural passes at the end of Hill's dam, Musquodoboit River, and Anderson's, on the Petpeswick, be covered with strong lattice work, so as to prevent persons taking fish with dip nets. On Tangier River, which was one of the best for salmon, trout and alewives, there is a very good Rogers' ladder; but the outlet does not appear to be in the right place. Fish seem to go all about and under the dam, where they are dipped, and do not find the entrance to the fish-way. Lobster poaching was carried on to a large extent during the last two years, and it will take considerable money to stop it entirely. Traps are now set on trawl lines in such places as are hard to find; and the lobsters are boiled in large pots in out-of-the-way places, on islands. These places are changed from time to

time, and the canning is done at home. This overseer has come to the conclusion that it would be well to allow lobsters to be caught in October and if the fishermen found it was an injury to the fishery, they would more readily comply with the law. The sawdust law was not so well observed as the Department might have wished, but the largest portion was kept out of the water.

HANTS.

Overseer J. B. Colter, Milford, states that there were not so many fish caught in his division of the Shubenacadie River as last year, water being high when the different kinds of fish went up. Fish of all kinds were plenty, and a great run went into Grand Lake.

PICTOU.

Overseer R. Sutherland, River John, reports a fair fishing season; the lobster fishery being the principal one. This overseer asks that salmon fry be deposited in River John and Cariboo Rivers, where salmon abounded at one time previous to the building of dams without fish-ways. Oysters could also be cultivated there at a very small cost, as a trial was made a few years ago with good results.

Overseer A. O. Pritchard, of New Glasgow, reports a large run of salmon in East River, the most important stream of this district. The decrease in Middle and West Rivers he attributes to over-fishing for the purpose of procuring parent salmon for the hatchery. Illegal netting is almost entirely stopped; spearing is more difficult to cope with. Guardian Cummings was brutally assaulted in the performance of his duties, but one of the assailants was convicted and fined $20. There is only one mill dam on East River, and as this is about to be removed, salmon will have uninterrupted access to the head waters.

DISTRICT No. 3.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 3 OF NOVA SCOTIA, COMPRISING THE COUNTIES OF KING'S, ANNAPOLIS, DIGBY, YARMOUTH, SHELBURNE, QUEEN'S AND LUNENBURG, FOR 1890, BY INSPECTOR J. R. KINNEY.

YARMOUTH, N.S., 31st December, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—Herewith I have the honour to transmit the fishery returns of this district for the year now ended.

These returns exhibit a decrease in the number of vessels and tonnage employed in the fisheries as compared with the year 1889:—

No. of Vessels, 1889	399	Tonnage	25,406
do 1890	362	do	22,203
Decrease	37		3,203

There is an increase in value of production as compared with the previous year, of $76,866.06.

SALMON,

as compared with the yield of 1889, shows a decrease of upwards of 27,000 lbs., or more than 25 per cent., which, taken with the falling off in 1889, exhibits a state of affairs calling for urgent and intelligent inquiry. The take of 1890 is but 37 per cent. of the catch of 1888, at which rate of decrease the extinction of this fish would seem to be but a question of time. The departmental expenditure for fish-ways has not led to such good results as were anticipated, and without entering into a discussion of the merits or demerits of the several patented structures called fish-passes or fish-ladders, I cannot too strongly or urgently call your attention to what

is to me intelligently demonstrated, *i.e.*, that any, and all known, devices for facilitating the up-stream progress of anadromous fishes are useless, unless constantly and carefully guarded during the spawning season. Of all the fish-ways in this district, I know of but three or four that are properly cared for. In more than one instance, as I have before pointed out, the fish-ways have assisted in making the streams non-productive. For instance, take the case of the lower dam on Salmon River, County of Digby, where there is a "patent" fish-ladder, built entirely below the dam, without any attempt at an auxiliary or wing-dam below. Before the creation of fish-ways and ladders, this stream was a noted salmon stream, but now the salmon and alewives have been "patented" out of existence. Happily, the lower dam on the Clyde River was so far demolished, that fish have now an unobstructed passage; hence the utility or non-utility of the fish-way at that dam is no longer a live question, as the structure is perfectly dry at all times. Jordan River is wholly destitute of fish-passes, excepting a simple opening at the lower dam.

HERRINGS.

The catch of 1890 falls short of that of the preceding year by nearly 9,000 barrels. The reason for this I shall not attempt to give, further than to quote from the report of one of the Overseers, who says that this falling off is due to the fact that "there was a scarcity of these fish." There are, however, numerous complaints from the net fishermen that the lobster traps baited with stinking offal are driving herring and mackerel from our shores. As this real or imaginary grievance has become chronic in certain localities, it is unquestionably a subject for investigation. I have received instructions to report on this subject, and before so doing, I shall avail myself of all possible information; but, at the outset, I incline to the belief that all the lobster pots in Nova Scotia could not pollute one square mile of the Atlantic Ocean.

ALEWIVES.

Had it not been for this fish, the shore cod-fishery would unquestionably have been a dead failure; it having supplied the preponderance of bait during the spring months for the shore fishing. Inasmuch as the catch of alewives in 1889 and 1890 show a marked increase when compared with previous years, it might be asked why these fish do not increase, or decrease in the same ratio as salmon? To this it may be answered that alewives do not offer the same temptation to the poacher as salmon. The latter being of more immediate value, are watched at every dam and in every lake, and are brutally killed on their spawning grounds.

MACKEREL.

A year ago I thought that these fish were deserting our inshores, but appearances were misleading, as the past year's catch exceeds that of 1889 by so large a quantity that the excess closely approaches $400,000 in value; thus saving this district from a deficit in the total yield. An outlay of several thousand dollars embarked in the spring mackerel fishery having become almost a total loss, fishermen dismayed by a staring deficit and placed in almost hopeless extremities, sought for a summer and autumn take by changing their grounds. In this, they were so far successful that several trap companies paid handsome dividends, and seiners were munificently repaid for their outlay.

LOBSTERS.

In canned lobsters there is a decrease in the output, not due to scarcity of fish but to the fact that some packers became frightened into a closer compliance with the regulations. The export of live lobsters proved a remunerative business and there are indications that this branch of trade will be prosecuted on a still larger scale next season. The lobster regulations were not well observed; the high prices obtained proving too strong a temptation to the average fisherman and packers. How to remedy this evil is a difficult problem to solve. I am inclined to suggest

that the limit in size be reduced to 9 inches; that all canneries be licensed, and heavy penalties imposed for violating the regulations, such penalties to culminate for repeated infractions in a cancellation of the license. It is a physical impossibility for the present staff of outside officers to watch even a small percentage of the lobster fishermen, but as the fish ultimately reach the packer, it is there that I would concentrate efforts for a reform.

CODFISH.

The total catch of cod shows a decrease of about 50,000 cwt., which is due to two causes, the first being a reduction in the fishing fleet of upwards of 3,000 tons, more than one-half of which occurs in the County of Shelburne, where to financial disarrangements is charged the deficit; and the other being that herring were not obtainable for bait until the appearance of alewives. I send you herewith a synopsis of the important points touched upon by the several overseers in their annual reports.

I have the honour to be, Sir,
Your obedient servant,
J. R. KINNEY.
Inspector of Fisheries, District No. 3, Nova Scotia.

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

ANNAPOLIS

Overseer W. M. Bailey says that the catch of herring was almost nothing, but that large quantities were observed off shore. The net fishermen believe that the continuous lines of lobster traps constantly hauled up and let down drive away other fish. The herring fishermen, who are more numerous than lobster catchers, feel that these complaints should be looked into. The sawdust law is fairly observed in the western part of this county. Fish-ways are much needed in certain parts, especially on the Nictaux River.

DIGBY.

Overseer James A. Collins says that bad weather and scarcity of bait caused a falling off in the take of line fish. The fishermen complain of lobster traps, alleging their injurious effects on the herring fisheries. Prices were good and the fishery regulations were generally observed.

Overseer J. W. Cossaboom says that line fishermen attribute their scanty fare to excessive trawling in St. Mary's Bay.

KING'S.

Overseer James S. Miller reports that the fishermen still complain of the lobster traps, and that the year's business has been below the average, notwithstanding a decided improvement in the shad fishery. He has no complaints to make for violations of the regulations.

Overseer R. F. Reid states that a very general observance of the fishery regulations has been maintained. The catch of alewives largely exceeded that of the previous year, and these fish appeared to be in quantities as great, if not greater, than ever before since the stettlement of the country. The fish ladders of this district did good service in allowing the parent fish free passage to the spawning grounds.

LUNENBURG.

Overseer David Evans, of Chester, reports that salmon visited his district in larger numbers than for several years past, but that fewer men being engaged in this branch of the fisheries is the cause of the slight decrease in the annual catch. The

prices obtained have been more remunerative than for many years past. In short, the whole season proved exceptionaly prosperous. Mr. Evans suggests that no salmon nets be allowed after 10th of June, as they interfere with other fishing pursuits.

Overseer C. E. Godard, of Bridgewater, says that the catch of fish in the La Have district was about the same as last season. Salmon now have free access to the upper reaches of La Have River through fish-passes.

Overseer W. M. Solomon, of Lunenburg, reports the number of vessels employed in his district as about the same as last year, the dozen or more new vessels added to the fleet being nearly offset by sales and losses. There were fewer vessels built than for several years past. The bank fishermen did not do so well as last year; shore fishermen did better, their catch being greater than for several years past. Mr. Solomon says that about twenty years ago, Lunenburg vessels were employed in the Labrador cod-fishing, but that the introduction of trawling nearly ruined them. Last year very few vessels went there. These, however, did better than usual. He predicts an increase in the tonnage of vessels to be employed in this branch of the fishing industry. Referring to the lobster fishery, Mr. Solomon states that a fishery overseer, paying only occasional visits to the canneries, cannot prevent the use of undersized fish, and that to effectually carry out the law, officers would have to be in each factory all the time.

QUEEN'S.

Overseer John Fitzgerald reports an increase in the catch of mackerel and lobsters, but says he cannot commend the law abiding qualities of lobster catchers. He urges special protection for salmon on the spawning grounds, where there is every facility for evil disposed persons to slaughter them, and suggests an increase in the number of close days for the further protection of these fish.

SHELBURNE.

Overseer W. J. McGill remarks that the shortage in the catch of codfish in his division is due to business failures in the eastern section of the county. The average take is also smaller, but this is compensated for by an increase in prices obtained. The fall fishing proved a failure, owing to stormy weather. The large inshore and harbour catch of mackerel is attributed to the abundance of young alewives, on which, he says, mackerel greedily feed. Mr. McGill considers that the protective regulations have tended to increase the alewive catch, and he looks forward to a continued abundance of this fish, great numbers of the young herring have been seen in Shelburne Harbour.

Overseer E. S. Goudey reports that some of the local fishing vessels were during the past year put in the coasting trade, owing to the poor trips of the preceding year; hence, the take of live fish is small, when compared with the vessels and men employed, but, on the whole, there is a slight gain. He reports alewives plentier in Barrington River than for thirty years past. He also reports an increase of these fish on Clyde River, where there is no need of a fish-way, the dam having been demolished. Extensive preparations are being made for carrying on the live lobster trade.

YARMOUTH.

Overseer John A. Hatfield reports increased activity in lobster fishing. This class of fishermen need constant watching; the remunerative prices obtained being a great temptation to catch undersized lobsters. The fish-ways are in good condition, the one at Carleton having been improved in such a manner as to work more effectually than before.

NOVA SCOTIA.—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men Employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.
Cape Breton County.			$			$			$					
From Albert Bridge to False Bay Beach					23	276	25	2000	600		3400			3
From False Bay Beach to Long Beach	1	9	250	4	37	852	58	4520	1356		1500			37
From Long Beach to Big and Little Glace Bay and Bridgeport					21	486	42	1500	499					
From Lingan to South Bar and South side Sydney River	1	12	250	4	42	1032	84	3000	1050		1048			5
From Sydney to N. W. Arm, Point Edward, Coxheath and Sydney, Forks River					29	360	40	1820	546		600			3
Gabarous	1	19	370	5	43	3440	129	6780	3400					176
Kennington Cove					12	430	45	1560	780					48
Louisburg					40	2800	120	6000	3000		900			160
Big Lorraine					40	2700	100	5060	2530	2				120
Little Lorraine	1	20	400	5	18	1360	54	2820	1410		400			90
Baulin					12	720	30	1900	850		200			60
Lewis Bay and Grand Mira					20	200	30	500	250		100	150		
East Bay and Big Pond					17	170	28	1000	500					
North side East Bay and Eskasoni					15	300	30	750	210					
From George's River to Lloyd's Cove					71	1420	142	3550	1024		1260			81
North Sydney to N. W. Arm	6	90	720	18	21	420	42	950	294					32
Boisdale to Grand Narrows					52	880	104	2600	728		160			
Main-à-Dieu					50	3000	122	5800	2900	4			2000	180
Mira Bay	1	10	200	4	42	1680	90	6000	5000	8	2000			150
Scatarie					20	1600	60	3680	1840	4				60
Totals	11	160	2190	40	625	23126	1375	61790	26767	18	11568	150	2000	1205

DISTRICT No. 1.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, **Province of Nova Scotia,** for the Year 1890.

Kinds of Fish.													Fish Products.			Value.
Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Hake and Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	$ cts.
125	....	72	250	10	25	300	6	1000	2000	13	6	.....	125	6	62	3,440 00
865	....	5	1190	....	127	5500	....	300	1500	50	....	24384	595	51	298	15,661 58
240	....	10	295	....	20	1800	....	1500	1800	25	...	.....	148	4	74	3,223 20
510	....	....	90	....	5	2000	....	400	2500	25	....	15343	45	2	22	5,286 76
250	120	75	30	....	.....	500	....	2200	7000	33	....	.....	15	....	8	2,690 50
270	....	8	1660	....	215	....	....	.....	.....	...	....	114320	900	...	200	25,634 40
84	....	...	180	....	125	.....	....	...	.....	...	..	.....	150	..	80	2,456 00
480	....	16	2400	....	400	.....	....	.....	..	...	....	24000	1200	....	260	19,522 00
490	..	10	2400	....	500	.....	..	50	.....	...	...	.....	1200	...	260	16,312 00
230	....	....	960	....	180	.....	....	...	....	....	....	.....	480	..	150	7,327 00
100	....	....	360	....	100	.....	...	.....	....	....	..	....	180	....	100	3,402 00
....	....	20	....	....	....	.....	7	100	500	....	....	.....	....	....	.....	250 00
100	...	10	60	...	....	....	...	150	300	5	....	.....	30	....	6	789 00
1100	....	....	680	....	....	....	....	800	....	14	10	.....	127	....	23	7,455 30
770	....	21	3620	....	378	5460	....	800	1350	34	10	35481	704	....	249	26,623 32
320	....	30	560	....	15	1200	....	150	1200	12	....	.....	81	....	22	4,347 40
75	....	....	465	....	.....	.....	....	1030	2600	8	....	.....	82	....	18	2,590 80
410	....	6	1775	....	225	4200	...	.....	....	6	....	26500	1025	....	250	17,176 00
650	....	10	1600	10	240	6720	....	.....	600	...	....	.....	950	...	160	14,151 00
200	....	8	2000	10	60	6600	....	.....	....	....	....	2400	1300	....	110	11,713 00
7269	120	301	20515	30	2615	34280	13	8480	21350	225	26	242428	9337	63	2352	190,051 26

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, in cans, lbs	Mackerel, barrels.	Mackerel, in cans, lbs.
Inverness Co.			8			8			8					
Port Hood	1	13	200	3	120	3600	360	20000	7000		1500		100	
Sea Side					30	300	90	4000	1200				40	
Little Judique					40	500	120	5000	2000				20	
Judique					40	400	100	3000	1600				20	
Long Point					20	200	60	3000	1600				30	
Cregnish					20	200	40	2000	800		1500		10	
Low Point					18	180	35	1800	600				8	
Whycocomagh					12	120	25	200	60					
Light Point					8	80	20	400	140				4	
Coal Mines, Mabou					16	240	30	800	400		2500		10	
Mabou Harbour					25	400	80	2000	1000		2000	100	12	
Little Mabou					15	150	30	1000	540				10	
Port Hawkesbury	6	436	12000	72	30	500	70	19000	4500	12	7000	720	2120	19300
Port Hastings					20	300	60	15000	3500				30	
West Bay					20	240	30	800	475					
North Mountain					40	500	80	3500	1900					
Malagawatch					34	440	68	2000	1100					
Boom					14	200	28	1200	600					
Basin, River Dennis					12	120	20	720	450					
River Inhabitants					4	40	8	600	300					
S. S. Whycocomagh					6	60	12	900	400					
River Dennis					2	10	4							
Delaney's Cove					7	240	21	600	314				25	
Doucett's Cove					6	230	18	516	286		438		46	
East Margaree					26	1600	85	5640	4200		840		320	
West Margaree	6	104	5200	30	8	536	25	3200	2420		29448		126	
Margaree Forks											1800			
Margaree River											620			
Margaree Island					24	424	59	960	638				413	
Broad Cove Marsh					10	400	30	800	270				96	
Port Bain					8	263	18	225	114				40	
Broad Cove Shore					9	120	21	480	260				53	
Coal Mines					4	142	9	450	284				11	
Lake Outlet & Loch Bain					5	30	10	32	76					
Trout Brook														
Cheticamp Point					44	1750	170	1700	825	10			250	
Eastern Harbour	4	126	1600	28	82	3520	250	3145	2565	10	3200		610	
Cape Rouge					20	600	60	800	600	10		2016	300	
Pleasant Bay					22	680	66	700	650			1200	500	
Big Pond					20	1000	60	1500	900		3500		200	
Friar Head					19	900	57	2200	1120		12000		135	
Mill Brook					6	300	18	400	650				25	
Big Pond & N.E. Margaree											3000		50	
Totals	17	679	19000	133	866	21515	2347	110268	46357	42	69346	4036	5614	19300

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.														Fish Products			Value.
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake and Pollock, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
800	....	2500	....	800	800	300	....	1000	200	1000	30	....	44381	2000	300	....	28,035 72
200	....	200	....	200	200	100	....	.....	50	.....	.....	.....	36433	400	100	....	8,481 96
2000	....	250	....	100	100	50	....	1000	20	1000	40	.....	.....	100	200	....	10,980 00
500	....	200	....	50	....	30	....	2000	.....	.....	30	....	41403	100	200	....	9,228 36
400	....	250	....	.....	....	25	....	1000	30	2000	10	.....	.....	100	100	....	3,780 00
25	....	50	....	.....	....	10	....	.....	.....	.....	.....	.....	.....	10	10	....	809 00
30	....	20	....	.....	....	15	....	1000	....	2500	30	.....	.....	10	10	....	949 00
50	....	300	....	.....	.....	.....	....	3000	....	2500	60	200	.....	100	20	....	3,300 00
50	40	150	....	50	....	50	....	.....	.....	.....	.....	.....	.....	50	10	....	1,295 00
25	....	200	....	50	100	60	400	2000	10	2000	10	....	10328	60	30	....	3,898 36
50	....	500	....	25	100	100	2000	1000	20	1500	10	50	6393	100	60	....	5,012 16
50	....	150	....	25	....	40	....	.....	10	.....	.....	.....	.....	50	20	....	1,300 00
1150	200	3200	35	210	30	350	....	900	60	4000	40	.....	.....	1300	60	1200	58,916 00
85	....	1320	60	.....	....	90	....	1200	40	7000	75	.....	.....	420	25	600	8,985 50
1125	....	400	....	.....	.....	.....	....	2500	....	2000	50	500	.....	150	30	....	8,575 00
950	....	420	....	.....	.....	.....	....	3000	..	2400	45	350	....	210	18	....	7,535 00
195	....	310	....	.....	.....	.....	....	3600	..	4200	71	265	.....	95	17	....	4,200 50
170	....	300	....	.....	.....	.....	....	1800	.	37000	55	305	.....	65	15	....	5,793 50
120	....	210	....	.....	.....	.....	....	2400	....	38000	60	230	.....	40	16	..	5,170 00
....	....	.....	....	.....	.....	.....	....	2000	....	2000	38	....	.....	.....	.....	....	700 00
40	20	250	....	.....	.....	.....	....	2500	....	3000	90	....	.....	.....	.....	....	2,580 00
....	....	.....	....	.....	.....	.....	....	4200	....	3200	65	....	.....	.....	.....	....	1,262 00
100	....	380	....	.....	.....	42	....	.....	.....	.....	.....	.....	.....	112	36	....	2,561 80
92	....	406	....	.....	.....	53	....	.....	.....	.....	.....	.....	.....	120	30	....	3,074 60
400	58	2600	....	.....	.....	246	....	800	.....	.....	10	.....	.....	842	123	....	18,914 30
134	150	1834	....	50	400	135	780	640	.....	.....	6	.....	.....	1630	139	....	18,529 10
14	200	75	....	.....	.....	.....	....	580	....	.....	6	.....	.....	180	.....	....	1,806 00
....	432	.....	....	.....	.....	.....	....	1672	...	.....	.....	.....	.....	.....	.....	....	2,235 20
146	..	261	....	.....	...	57	860	.....	.....	.....	.....	.....	.....	164	126	..	8,391 60
160	24	172	....	.....	..	34	....	.....	.....	.....	.....	.....	.....	53	60	....	3,123 20
113	....	114	....	.....	.....	21	....	.....	.....	.....	.....	.....	10128	29	40	....	2,878 96
104	20	194	....	.....	.....	24	....	.....	.....	.....	.....	.....	.....	128	35	....	2,276 70
26	....	86	....	.....	.....	12	....	.....	.....	.....	.....	.....	.....	23	15	....	692 70
....	82	...	....	.....	.....	.....	....	440	....	.....	8	....	.....	.....	.....	...	493 00
....	....	.....	....	.....	.....	.....	....	16200	....	.....	.....	.....	.....	.....	.....	....	1,620 00
....	...	4400	....	.....	.....	100	....	.....	400	.....	.....	.....	.....	2200	....	.	24,390 00
60	....	6300	....	.....	.....	232	....	.....	405	.....	.....	.....	.....	2165	380	....	33,531 00
....	....	800	....	.....	.....	200	....	.....	150	.....	.....	.....	17184	200	50	....	11,779 48
.....	.....	1500	....	.....	.....	100	....	.....	200	.....	.....	.....	6816	150	100	....	15,907 92
200	....	1500	....	.....	.....	160	....	.....	100	.....	.....	.....	.....	900	200	....	12,200 00
150	....	1250	....	.....	.....	125	....	.....	170	.....	.....	.....	.....	300	75	....	11,437 50
25	..	300	....	.....	.....	50	....	.....	50	.....	.....	.....	.....	150	30	....	2,180 00
4	....	2200	....	.....	..	200	....	3000	200	.....	.....	.....	.....	800	200	....	17,186 00
9743	1226	35552	95	1560	1730	3011	4040	59432	2115	115300	839	1900	173066	15506	2880	1800	377,339 12

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.	
	Vessels.				Boats.			Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.
Richmond Co.			$			$			$
Arichat	3	100	1600	30	80	1000	150	70000	8000
West Arichat	2	60	700	12	90	1000	150	40000	5000
Petit de Grat	2	90	700	14	200	2000	200	90000	10000
Cape au Guet					70	800	180	60000	80000
Port Royal	2	40	900	12	14	400	24	20000	3000
D'Escousse	20	900	20000	300	40	150	90	50000	7000
Polimand	2	90	2200	24	10	100	20	1000	4000
Port Richmond	4	180	4000	40	10	100	20	1000	4000
Cape LeRond	1	45	800	15	40	400	60	5000	3000
Rocky Bay					40	650	80	8000	4000
Little Anse					50	800	100	8000	4000
Gros Nez	1	40	600	10	60	90	100	8000	4000
River Inhabitants	3	120	1900	18	20	200	20	9000	5000
Black River					20	200	20	900	400
Lower d'Escousse	6	1800	3000	60	40	200	80	1000	500
Martinique and Lennox Passage					12	400	20	1000	500
Fourchu	2	42	1100	7	20	765	60	2800	420
Framboise					15	375	45	3000	450
St. Esprit					5	100	10	1400	280
L'Archeveque					9	180	18	2520	504
Grand River					29	580	58	10440	2088
Point Michaud					14	225	27	2500	700
L'Ardoise	1	15	250	5	270	5100	560	14600	12800
St. Peter's Island					60	1250	120	7500	4180
St. Peter's	4	88	1200	22	40	650	80	12000	2000
River Bourgeois	22	551	11000	175	17	200	20	2200	1100
Totals	75	4161	49950	744	1276	17915	2308	431860	166922

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia.**—*Con.*

Kinds of Fish.											Fish Products.		Value.
Salmon, barrels.	Mackerel, barrels.	Mackerel, in cans, lbs.	Herrings, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Haddock, cwt.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	
													$ cts.
	200	2000	4000	300	3000	10	4000			400000	60	20	96,744 00
	100	100	100	100	1000	7	1000	800	10	400000	60	10	58,619 00
2	300	2000	3000	50	1000	30	1000			110000	60	10	38,536 00
	30		1000	20	1000	10	2000				40	10	16,671 00
	20		600	20	500	5	100	1000			50	10	5,335 00
	50		1000		60000	100	200			20000	300	40	249,130 00
	20		50		5000	20					80	10	20,747 00
	50		60	40	1000	20			30		50	10	5,705 00
	100		400		1000	10	100		10	400000	40	10	55,731 00
	100		200		200	10	100				50	10	3,635 00
	200		400		1000	20	1000		20		40	10	13,031 00
	400		500		1000	10	1000				30	10	16,127 00
	100		200	60	100	5			20		20	10	3,243 00
10									50				660 00
	100		200	50	5000	20	60				10	10	22,984 00
	50		200	10					80				2,395 00
	120		40		400					75968	200		12,756 16
	30		30		75						30		882 00
	35		35		25						10		769 00
	27		18		90					3360	30		1,252 20
	145		145		174						60		3,475 00
	55	1200	120	12	230		50			37500	80		7,155 00
8	700		600	250	3300		3550				2800		42,673 00
	400		220	50	550		300		5	125000	350	30	25,740 00
2	40		60	20	1000						400		5,122 00
	10		100	10	5500		150		12		2000		24,115 00
													*22,500 00
22	3382	5300	13278	992	92144	277	14610	1800	237	1571828	6850	210	755,732 36

*Amount used for home consumption, not included above.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.										
	Vessels.				Boats.			Nets.										
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.
Victoria Co.			$			$			$								
Englishtown					52	1040	104	3120	1248	45				26		520	
Black Head					10	120	20	200	468	16				10		150	
Bird Island					50	2500	150	3600	1800	10				56		1120	
Barasois					18	216	36	1285	500					5		180	
Indian Brook					22	264	44	2220	840					44		132	
Little River					20	240	40	2100	620					40		300	
Breeding Cove					17	255	34	1920	770					34		153	
French River					14	210	28	1680	700					28		210	
Wreck Cove					20	200	40	2160	900					40		200	
Path End					6	60	12	662	320	10				24		90	
S. Bay Ingonish					130	4550	390	10640	5240	45				130		390	
N. Bay Ingonish					120	3000	240	8640	4840					120		420	
Ingonish Island					10	150	30	1040	220	4				10		20	
Rocky Side St. Ann's					14	140	28	1700	730	20				42		126	
South Gut					12	120	24	1400	600					12		120	
North Gut					10	100	20	1180	500	12				15		100	
Munroe's Point					28	280	56	3620	1450	10				35		252	
Goose Cove					10	100	20	1060	450	4				12		90	
North River					38	380	76	3800	1850	8				20		304	
Cape Dauphin					20	240	40	960	480	20				60		300	
New Campbellton					35	630	68	1680	840					70		525	
Great Bras d'Or					30	300	60	1440	720	10				15		360	
Big Harbour					6	60	12	288	144							18	
Meat Cove					16	288	36	602	300					155		16	
Wreck Cove					12	216	25	756	378					60		30	
Bay St. Lawrence					45	810	90	2100	1050					75		60	
North Harbour					12	240	24	756	378	10				230		20	
White Point					48	960	100	3500	1750	12				150		20	
New Haven					34	900	68	2266	1133					34		40	
Neil's Harbour					45	1125	90	2750	1375							75	
Green's Cove					25	500	60	1650	825					40		90	
S. S. Little Narrows					3	36	4	210	55					7		48	
Nyanza and N. S. Little Narrows					5	40	7	308	150	2				1		36	
Baddeck					9	84	10	390	150	21				4		74	
Kemp Head Boularderie					3	34	4	184	96					3		28	
Washabuck and Gillis' Point					14	168	26	310	170					10		180	
Grand Narrows					24	288	51	680	350					30		685	
Totals					987	20844	3034	72857	44190	259				1647		7482	
Grand Totals for District No. 1	103	5000	71140	917	3754	83400	9064	676775	284216	341	80911	150	6036	11848	34600	37772	120

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.				Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake and Pollock, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
....	350	....	....	250	80	....	....	....	1500	....	6	....	....	175	..	75	....	11,402 50
....	130	....	....	70	20	....	....	....	10	....	....	....	....	65	..	8	....	1,754 00
....	570	....	....	....	100	....	....	....	50	....	....	....	....	285	..	60	....	8,564 00
....	70	....	....	....	60	....	....	....	40	....	....	20	....	35	..	10	....	1,564 00
....	90	....	....	....	12	....	....	....	10	....	....	....	....	45	..	8	....	1,666 00
....	200	....	....	....	80	....	....	....	20	....	....	....	18240	100	..	12	20	5,256 80
....	170	....	....	....	75	....	....	....	10	....	....	....	....	85	..	15	....	2,198 50
....	168	....	....	....	50	....	....	....	18	....	....	....	....	84	..	9	50	2,276 10
....	240	....	....	....	60	....	....	....	9	....	....	....	....	120	..	25	....	2,721 50
....	72	....	....	....	40	....	....	....	5	....	....	....	....	36	..	6	....	1,371 40
....	3900	....	....	....	1000	....	....	....	100	....	....	....	54384	1950	..	450	....	32,211 08
....	3600	....	....	....	90	....	....	....	95	....	....	....	....	1800	..	480	....	20,060 00
....	350	....	....	....	50	....	....	....	6	....	....	....	....	175	..	30	....	2,033 00
....	28	....	....	....	....	....	....	....	50	....	....	....	....	14	..	7	....	1,780 10
....	36	....	....	....	....	....	....	....	40	....	....	....	....	18	..	6	....	980 20
....	40	....	....	....	....	....	....	....	35	....	....	....	....	20	..	5	....	1,132 50
....	112	....	....	....	....	....	....	....	25	....	....	....	....	66	..	14	....	2,284 40
....	60	....	....	....	....	....	....	....	9	....	....	....	....	30	..	5	....	899 50
....	380	....	....	....	....	....	....	....	50	....	....	....	....	190	..	19	....	3,468 50
....	600	....	....	....	....	....	....	....	95	....	....	....	....	300	..	60	....	5,410 00
....	1050	....	....	....	....	....	....	....	70	....	....	....	....	525	..	70	....	7,945 00
....	360	....	....	....	....	....	....	....	60	....	....	....	....	180	..	60	....	3,667 00
....	10	....	....	....	....	....	....	....	6	....	....	....	....	5	..	3	....	142 50
....	160	....	....	....	....	....	....	....	....	....	....	....	....	120	..	20	....	3,107 00
....	250	....	....	....	....	....	....	....	....	....	....	....	12480	175	..	30	....	3,632 60
....	500	....	....	....	....	....	....	....	....	....	....	....	....	300	..	75	....	3,597 50
....	455	....	....	....	....	....	....	....	....	....	....	....	....	260	..	22	....	5,647 00
....	1700	....	....	....	....	....	....	....	....	....	....	....	6480	1200	..	180	....	10,849 60
....	2300	....	....	....	....	....	....	....	....	....	....	....	....	2000	..	240	....	11,030 00
....	2400	....	....	....	....	....	....	....	....	....	....	....	....	1500	..	250	....	10,875 00
....	800	....	....	....	....	....	....	....	....	....	....	....	....	500	..	80	....	4,480 00
250	55	....	....	....	....	....	....	....	....	1000	8	70	....	16	..	12	....	2,016 40
260	15	....	....	....	....	....	....	900	....	1200	16	60	....	....	..	....	....	1,923 00
32	72	....	....	....	11	300	..	850	....	800	15	15	....	30	..	....	....	1,538 00
....	27	....	....	....	....	....	....	....	....	....	....	....	....	15	..	....	....	271 00
12	170	....	....	....	13	210	..	600	....	1400	16	80	....	70	..	54	....	2,330 00
7	364	....	....	....	15	320	..	....	....	1100	17	50	....	150	..	100	....	5,365 50
571	21854	....	....	320	1756	830	..	2350	2313	5500	78	295	91584	12629	..	2500	70	187,453 18
3080	170065	372	1590	2050	21992	39150	13	70262	4428	143950	1379	2221	2078906	44322	63	7942	1870	1,510,575 92

RECAPITULATION

Of the Yield and Value of the Fisheries for the Island of **Cape Breton,** for the Year 1890.

Kinds of Products.		Quantities.	Rate.	Value.
			$ cts.	$ cts.
Salmon, pickled	Brls.	341	16 00	5,456 00
do fresh, in ice	Lbs.	80,914	0 20	16,182 80
do preserved	Cans.	6,036	0 15	905 40
do smoked	Lbs.	150	0 20	30 00
Mackerel, pickled	Brls.	11,848	15 00	177,720 00
do	Cans.	24,600	0 12	2,952 00
Herring	Brls.	37,772	4 00	151,088 00
do smoked	Boxes	120	0 25	30 00
Alewives	Brls.	3,080	4 50	13,860 00
Cod, dried	Cwt.	170,065	4 00	680,260 00
Cod Tongues and Sounds	Brls.	372	10 00	3,720 00
Hake and Pollock	Cwt.	1,590	4 00	6,360 00
Hake Sounds	Lbs.	2,050	1 00	2.050 00
Haddock	Cwt.	21,992	4 00	87,968 00
Halibut	Lbs.	39,150	0 10	3,915 00
Shad	Brls.	13	10 00	130 00
Trout	Lbs.	70,262	0 10	7,026 20
Squid	Brls.	4,428	4 00	17,712 00
Smelts	Lbs.	143,950	0 06	8,637 00
Eels	Brls.	1,379	10 00	13,790 00
Oysters	"	2,221	3 00	6,663 00
Lobsters	Cans.	2,078,906	0 12	249,468 72
Fish Oil	Gals.	44,322	0 40	17,728 80
do Guano	Tons.	63	25 00	1,575 00
do used as bait	Brls.	7,942	1 50	11,913 00
do do manure	"	1,870	0 50	935 00
do used for home consumption in Richmond County				22,500 00
Total				1,510,575 92

COMPARATIVE STATEMENT of the Value of Fisheries for the Four Counties of the Island of **Cape Breton**, for the Years 1889 and 1890.

Counties.	1889.	1890.	Decrease.	Increase.
	$ cts.	$ cts.	$ cts.	$ cts.
Cape Breton	195,293 70	190,051 26	5,242 44	
Inverness	378,326 54	377,339 12	987 42	
Richmond	566,346 80	755,732 36		189,385 56
Victoria	242,612 30	187,453 18	55,159 12	
Total	1,382,579 34	1,510,575 92	61,388 98	189,385 56
Increase				127,996 58

TABLE showing the Number and Value of Vessels and Boats, Nets and Seines, &c., engaged in the Fisheries of the Island of **Cape Breton**, and the Approximate Estimates of the Value of other Material not included in the Returns for 1890.

Material.	Value.	Total.
	$	$
103 vessels—5,000 tons	71,140	
3,754 boats	83,400	
676,775 fathoms of nets	284,216	
		438,756
Canning establishments	58,200	
Seines, not included in returns	5,420	
Lobster traps	32,500	
Hand lines, trawls, &c	34,100	
Steamers, smacks, punts, canoes, &c	14,300	
Fishing piers, houses and other sundries	58,000	
		202,520
Total		641,276

NOVA SCOTIA,

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men Employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.		Weirs.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.
Antigonish Co.			$			$			$		$			
Tracadie					67	2200	143	35000	16000			5000	500	60
Antigonish					42	1000	77	19500	1000			15000	12	16
Morristown					80	2000	166	40000	19000			8000	105	100
Arisaig					60	1500	130	30000	12000			5000	60	70
Totals					249	6700	516	124500	48000			33000	677	246
Values $												6600	10155	984
Colchester Co.														
Stirling					3	45		500	500					30
Lower Stewiacke					16	80	16	160	96			2400		
Forest Glen					4	20	4	60	24			900		
Middle Stewiacke					4	20	4	60	24			600		
Masstown					6	208	12	1675	250			1100		
Little Dyke					7	285	14	2125	298			1977		
Great Village					3	115	6	950	150			1032		
Great Village Point					3	105	6	900	130			870		
Highland Village					4	165	8	1225	180			660		
Five Houses					1	50	2	350	45			300		
Bass River					3	125	9	880	175	1	225	800		
Birch Hill							4			1	400			
Little Bass River					3	130	8	950	160	1	300	880		
Upper Economy					4	150	16	1100	170	4	1300	1120		37
Central Economy														
Lower Economy							3			1	300			12
Five Islands					5	200	13	trawls	175	2	600	315		21
Totals					66	1698	125	10935	2377	10	3125	12954		100
Values $												2590		400

DISTRICT No. 2.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, **Province of Nova Scotia,** for the year 1890.

Kinds of Fish.														Fish Products.			Value.
Herrings, smoked, n boxes.	Alewives, barrels.	Cod, cwt.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as bait, barrels.	$ cts.
....	100	38	70	108	....	....	270	2800	3500	120	200	110000	150	110	1050	27,305 00
....	40	30	90	30	....	....	2800	4000	18000	200	40	.. ..	110	220	300	8,506 00
....	110	150	2000	140	.. ..	....	700	170	6500	....	....	68000	900	1600	400	24,399 00
....	115	65 ...	1500	168	....	....	500	400	10000	6	....	62000	650	3000	300	21,510 00
....	365	283	3660	446	....	....	4270	7370	38000	326	240	240000	1810	4930	2050	
....	1643	1132	14640	1784	....	....	256	737	2280	3260	720	28800	724	4930	3075	81,720 00
60	....	....	....	....	....	....	....	....	29000	...	20	....	....	....	300	2,385 00
....	20	....	....	..	....	9	500	100	....	....	..	....	....	.....	...	691 00
...	....	....	....	....	....	20	....	150	....	....	..	....	....	....	....	375 00
....	....	....	....	....	....	15	....	200	....	....	....	....	....	....	....	275 00
....	....	....	....	....	....	42	....	....	....	....	....	....	....	....	....	598 00
....	....	....	....	....	....	39	....	....	....	....	....	....	....	....	....	746 00
....	....	....	....	....	....	21	....	....	....	....	....	....	....	....	....	395 00
....	....	....	....	....	....	16	...	....	....	....	....	....	....	....	....	318 00
....	....	....	....	....	....	33	210	200	...	....	....	....	....	....	....	429 00
....	....	....	....	....	....	4	....	....	....	....	....	....	....	....	....	96 00
....	....	....	....	....	....	33	....	150	....	....	....	....	....	....	....	490 00
....	....	....	....	....	....	32	....	....	....	....	....	....	....	....	....	288 00
....	....	....	....	....	....	19	....	....	....	....	....	....	....	....	....	362 00
....	....	....	....	....	....	45	...	....	....	....	....	....	....	....	....	777 00
....	....	....	....	....	....	....	....	1000	....	....	....	....	....	....	....	100 00
1800	....	9	....	....	....	3	....	....	....	....	....	....	....	....	....	561 00
....	....	136	....	..	2250	31	...	500	....	....	....	....	112	....	20	1,320 00
1860	20	145	....	....	2250	362	710	2300	29000	...	20	....	112	....	320	
465	90	580	....	....	225	3258	43	230	1740	....	60	....	45	....	480	10,200 60

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.		Weirs.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.
Cumberland Co.			$			$			$		$			
Pugwash, Port Philip and Gulf Shore					35	879	56	725	504					
Wallace					60	1200	80	1400	560				4	350
River Philip	2	60	2000	7	5	90	12	300	450			3800		
LaPlanche River					2	40	4	144	150					
Nappan					1	20	2	50	50					
Minudie					2	40	4	100	140			300		
Apple River					3	60	6	120	160			1500		
Advocate					7	100	14	100	100				30	50
Spencer Island					3	70	7	150	150	2	50			60
Port Greville					4	80	8	150	150			350		50
Parrsboro'					2	40	4	50	50	1	30	150		30
Two Islands					1	20	2	20	20			100		10
Totals	2	60	2000	7	125	2639	199	3309	2484	3	80	6200	34	550
Values $												1240	510	2200

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.		Value.
Alewives, barrels.	Cod, cwt.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	
															$ cts.
4	20	.....	1	2	.....	.....	.....	.....	7500	.....	282	123120	.....	91	16,317 00
275	.....	.....	.....	.....	.....	3	200	1000	2000	3	100	149800	.....	600	22,163 00
460	.....	.....	.....	.....	.....	10	.....	1200	1000	15	.....	.....	.....	.....	3,250 00
90	.....	.....	.....	.....	.....	20	.....	.....	500	.....	.....	.....	.....	.....	615 00
13	.....	.....	.....	.....	.....	10	.....	.....	50	.....	.....	.....	.....	.....	152 00
10	.....	.....	.....	.....	.....	117	.....	.....	150	.....	.....	.....	.....	.....	1,167 00
.....	30	10	15	12	.....	.....	.....	150	.....	.....	.....	.....	.....	.....	583 00
.....	100	.....	.....	75	200	.....	.....	.....	.....	.....	.....	2000	.....	.....	1,610 00
.....	65	20	.....	75	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	890 00
.....	75	10	.....	60	250	.....	.....	.....	.....	.....	.....	.....	20	.....	883 00
.....	15	.....	.....	30	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	340 00
.....	10	.....	.....	10	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	145 00
852	315	40	16	264	700	160	200	2350	11200	18	382	274920	20	691	
3834	1260	160	64	1056	70	1440	12	235	672	180	1146	32991	8	1037	48,115 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats Engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								
	Vessels.				Boats.			Nets.		Weirs, Seines & Traps.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, Smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.
Guysboro' Co.			$ 8			$ 8			$ 8		$ 8					
From East Side Beckerton, Fisherman's Harbour, Country Harbour to New Harbour	5	172	5050	38	219	5650	237	19620	9810	2	425	1	.....	....	960	644
From New Harbour to White Head	6	124	3600	28	474	10940	513	67780	33890	..	.....	..	.....	....	480	1869
From thence to Canso and Tittle	1	49	700	11	245	5850	250	22860	11430	28	4200	..	2000	....	.....	874
From thence to Salmon River	..	....	.....	..	264	4020	294	40160	20080	35	4700	..	...	.....	96	1518
From thence, viz., Cook's Cove, Guysboro', North Shore, and Straits of Canso to County Line	4	91	2250	14	471	6675	532	80840	40420	12	1400	..	8300	....	.....	2658
St. Mary's Bay and River	..	....	.....	..	42	550	50	6100	460	..	.....	..	9500	560	270	12
Gegogin Harbour and River	..	....	.....	..	14	320	30	2300	175	..	.....	..	650	200	.....	3
Indian Harbour	..	....	.....	..	30	550	50	9500	650	1	70	..	.....	....	.....	10
Beckerton	..	....	...	..	36	850	55	6500	520	..	.....	..	.....	....	.....	4
Holland's Harbour and Indian River	..	....	.....	..	15	320	30	2300	180	..	.....	..	120	....	.....	....
Wine Harbour	1	10	300	4	32	520	56	2800	190	1	60	..	800	100	.....	10
Liscomb Bay and Spanish Bay	..	....	.....	..	98	3200	200	7800	1300	2	120	..	300	....	.....	15
Marie Joseph	..	....	.....	..	65	1900	180	4500	900	1	60	..	500	...	200	150
Ecum Secum	..	....	.....	..	45	960	130	4100	840	1	25	..	1000	250	.....	50
Head of Country Harbour and River	..	....	.....	..	4	50	4	80	32	..	.....	..	300	....	.....	.....
Totals	17	446	11900	95	2054	42355	2611	277240	120877	83	11060	1	23470	1110	2006	7817
Values	8	....	.....	.	....	.....	.....	.....	...	..	.....	16	4694	222	300	117255

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.																Fish Products		Value.
Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	
																	$ cts.
.....	1256	157	1908	...	...	....	357	2500	..	1000	.....	22000	80	149856	944	92	45,579 00
.. ..	2306	805	6720	...	...	.....	1549	4050	.	5000	.....	150	76	329088	3335	582	117,401 00
26208	579	.....	3760	...	...	....	698	.....	.	.....	1955	.....	50	276740	1503	303	79,387 00
.....	517	.....	3265	..	...	....	783	. ...	..	.....	4465	.....	...	46608	1627	321	65,630 00
.....	2808	997	1736	...	...	....	1064	.....	..	500	1233	10000	20	.....	738	105	74,683 00
.....	140	22	165	...	...	....	8	750	2	4800	2	3000	9	36500	80	140	9,056 00
.....	60	5	120	...	..	....	5	540	..	1200	3	2000	10	.....	50	60	1,493 00
. . .	300	10	70	...	...	...	10	800	..	1000	4	3500	12	14400	35	180	4,253 00
....	210	....	115	...	...	....	.....	750	..	.....	...	.....	20	66050	55	170	9,838 00
.....	75	6	60	...	...	...	.....	300	1	2000	.....	.....	...	.....	30	280	1,262 00
.....	260	.....	165	...	...	....	.....	1400	2	500	2	1200	9	... ..	80	200	2,740 00
.....	320	270	2500	...	20	100	.....	4000	..	4600	.....	20000	50	66500	1100	1500	26,490 00
.....	50	.....	800	10	30	200	.....	3500	...	.....	50	9000	25	45000	400	1100	15,350 00
.....	20	.....	160	3	...	....	.....	650	..	2800	....	3000	30	2500	100	900	4,265 00
.....	.....	12	.....	...	...	....	.....	.....	1	1200	.....	200	....	.....	.....	....	255 00
26208	8901	2284	21544	13	50	300	4474	19240	6	24600	7714	74050	391	1033242	10077	5933	
3145	35604	10279	86176	130	200	1200	17896	1924	54	2460	30856	4443	3910	123989	4030	8899	457,682 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Seines.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.
Halifax Co.			$			$			$		$				
North Shore	3	60	2400	15	224	6720	210	48000	4800	53	10600		800		1650
East St. Margaret's	4	80	2600	24	195	5850	205	49400	4940	65	13000				1680
Indian Harbour	3	60	1650	18	125	3750	118	19400	1940	38	7600		500		1600
Peggy's Cove					114	3120	106	71560	7156	64	12800		750		310
Dover	8	160	5600	48	110	3300	136	62400	6240	48	9600		2000		1100
Prospect	5	120	3360	30	445	13250	387	258000	38700	106	21200		2000		2620
Terrance Bay	7	140	5000	48	132	2640	124	46000	6900	30	6000				630
Pennant	6	70	2800	30	92	3680	109	18500	2775	10	2000				580
Sambro	3	42	1600	18	145	5800	158	18900	2835	4	1200				1045
Ketch Harbour	2	35	550	9	98	2940	98	21800	3270	10	2250				540
Portuguese Cove					84	1680	94	120000	19000	26	5600		5200		560
Herring Cove	10	250	7000	65	118	3540	116	46000	5520	42	8400				200
Ferguson's Cove	1	25	750	6	25	500	30	12000	1440	26	5200				325
Bedford					15	300	20	4000	480	4	800		800		85
Halifax												1700			
Eastern Passage to Three Fathom Harbour					115	1911	94	32160	2396				1313		82
Seaforth to East Chezetcook	15	475	14750	142	171	1823	67	21900	1587						120
Petpeswick to Clam Harbour	11	187	6950	84	239	4035	198	48425	3143	2	400		1198	792	271
Ship Harbour to Pope's Harbour	3	80	2300	12	97	1891	99	22050	1532				160		138
Pope's Harbour to Taylor's Head	8	257	5400	55	80	2229	103	14120	3150						263
Taylor's Head to Beaver Point	2	27	900	5	104	1817	179	3060	644	2	45		170		70
Beaver Point to Ecum Secum					137	2483	268	1780	348	5	165				213
Home consumption													1000		450
Totals	91	2068	63610	609	2865	73259	2919	939455	118796	4535	106860	1700	15891	792	14532
Values $												27200	3178	159	217980

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—*Con.*

Kinds of Fish.													Fish Products.			
Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod, Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish oil, galls.	Hake Sounds, lbs.	Fish used as bait, barrels.	Value.
																$ cts.
.. .	425	20	650	13	....	75	.....	.....	.....	.....	.....	.....	600	75	90	30,180 00
. ..	235	....	750	15	....	....	.....	.....	.....	.....	.....	.....	600	.	105	29,688 00
....	1200	50	1500	40	...	500	400	.....	.....	.....	.....	.....	1600	500	280	40,685 00
....	120	....	305	6	....	....	200	.....	.....	.....	.....	.....	240	....	50	7,510 00
....	415	55	435	15	....	300	.....	.....	.....	.....	.....	10368	600	300	90	23,817 00
6720	920	....	1480	37	....	365	.....	.....	.....	.....	.....	31104	1480	365	320	57,105 00
....	620	....	720	15	....	....	50	.....	.....	.....	.....	9840	600	....	96	16,745 00
....	60	80	1605	32	....	....	.....	.....	.....	.....	.....	.....	1280	....	190	16,837 00
....	24	....	2080	45	....	150	.....	.....	.....	.....	.....	96000	1800	150	250	37,906 00
....	200	65	1440	39	....	90	130	.....	.....	.....	.....	.....	1560	90	218	17,264 00
...	86	..	350	9	....	45	56	.....	.....	.....	.....	.....	360	45	60	11,957 00
...	100	....	2310	48	....	125	120	16000	.....	.....	.....	.....	1920	125	320	17,073 00
....	15	....	130	....	....	....	.....	.....	.....	.....	.....	.....	60	....	18	5,506 00
....	15	....	10	....	....	....	.....	.....	.....	.....	.....	.....	8	....	3	1,543 00
....	20000	....	5000	...	....	....	..	.....	10000	.....	.....	.....	20000	....	....	136,200 00
....	413	1	1783	....	25	1	484	921	750	7500	11	....	308	....	22	13,203 00
...	398	128	7328	....	10	30	233	650	850	2800	4	.....	1818	11	200	35,768 00
....	864	42	4495	....	85	189	270	431	1400	12250	32	134400	1077	279	130	46,535 00
....	267	290	1847	....	....	10	143	320	850	1000	7	99360	461	12	25	24,880 00
....	963	66	1566	....	..	286	126	...	...	.....	..	69360	725	597	...	24,919 00
	80	....	827	....	...	....	74	.....	....	....	...	199025	170	....	....	29,256 00
....	64	1	753	....	....	....	11	.....	....	....	....	296880	205	....	....	42,219 00
....	1800	....	1350	....	....	250	900	.....	.....	.....	.....	.....	.....	.....	....	24,150 00
6720	29284	798	38714	314	120	2416	3197	18322	13850	23550	54	946337	37472	2549	2467	
806	117136	3591	154856	3140	480	9664	12788	1832	1385	1413	540	113561	14989	2549	3701	690,946 00

Add live lobsters shipped to United States	500 00
Fresh fish sold in the Halifax markets	36,800 00
Total	728,246 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Weirs.			
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.
Hants Co.			$			$			$		$		
Shubenacadie River to Maitland					35	420	35	1440	1210			1200	
Grand Lake to Shubenacadie					86	258	86	774	344			2880	
West Hants					10	1000	20	3250	1900	1	120	575	
Totals					131	1678	141	5464	3454	1	120	4655	
Values $												931	
Pictou Co.													
West Pictou												4000	66
Pictou Island					38	380	70	425	119				13
Central Division													
Southern Division					17	378	27	1599	1205			9930	
Chance Harbour					9	180	9	675	675			6900	
Little Harbour					16	320	16	1225	1225			8700	
Big Island					7	140	7	880	880			10200	
North Beach					4	80	4	725	725			3300	
Ponds					7	140	9	1120	1120			4800	
Lismore					4	80	4	615	615			2900	
Totals					102	1698	146	7264	6564			50730	79
Values $												10146	1185

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.																Fish Products.			Value.
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	$ cts.
...	149	....	....	....	....	....	....	9	....	....	....	....	....	....	....	....	....	.....	992 00
....	620	....	....	....	....	....	....	155	3620	....	....	....	....	....	....	....	....	....	4,978 00
51	....	....	....	....	....	....	....	64	75	....	....	....	....	....	....	....	....	....	900 00
51	769	....	....	....	....	....	....	228	3695	....	....	....	....	....	....	....	....	....	
204	3461	....	....	....	....	....	....	2052	222	....	....	....	....	....	....	....	....	....	6,870 00
567	50	50	15	20	25	30	1000	....	....	400	2200	30	50	442560	200	1200	1000		61,142 00
85	....	20	....	....	....	4	....	....	....	....	....	....	....	253200	....	387	20		31,606 00
....	....	....	....	....	....	....	....	....	200	500	10000	240	100	....	....	....	....		3,362 00
222	8	13	....	....	....	....	....	....	....	....	....	30	....	....	....	....	....		3,262 00
26	....	....	....	....	....	....	....	....	....	....	....	20	....	....	....	....	....		1,684 00
342	....	....	....	....	....	....	....	....	....	....	....	20	....	17520	....	50	....		3,308 00
....	....	....	....	....	....	....	....	....	....	....	....	30	....	....	....	....	....		4,517 00
....	....	....	....	....	....	....	....	....	....	....	....	20	....	....	....	....	....		860 00
50	....	....	....	....	....	....	....	....	....	....	....	50	....	66000	....	50	....		9,655 00
....	....	....	....	....	....	....	....	....	....	....	....	20	....	....	....	....	....		780 00
1292	58	83	15	20	25	34	1000	....	200	900	12200	460	150	779280	200	1687	1020		
5168	261	332	150	80	100	136	100	....	12	90	732	4600	450	93513	80	2531	510		120,176 00

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in District No. 2, **Province of Nova Scotia,** for the Year 1890.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS OF FISH.								
	Vessels.				Boats.			Nets.		Weirs.		Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.									
District No. 2.			$			$			$		$									
Antigonish					249	6700	516	124500	48000				33000			677		246		365
Colchester					66	1698	125	10935	2377	10	3125		12954					100	1860	20
Cumberland	2	60	2000	7	125	2639	199	3309	2484	3	80		6200			34		550		852
Guysboro'	17	446	11900	95	2054	42355	2611	277240	120877	*83	*11060	1	23470	1110	2006	7817	26208	8901		2284
Halifax	91	2068	63610	609	2865	73259	2919	939455	118796	*4335	*106860	1700	15891	792		14532	6720	29284		798
Hants					131	1678	141	5464	3454	1	120		4655					51		769
Pictou					102	1698	146	7264	6564				50730			79		1292		58
Grand Totals	110	2574	77510	711	5592	130027	6657	1368167	302552	14	3325	1701	146900	1902	2006	23139	32928	40424	1860	5146
Values $										*4418	*117920	27216	29380	380	300	347085	3951	161696	465	23157

* Seines.

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, **Nova Scotia**—*Concluded.*

COUNTIES.	KINDS OF FISH.														FISH MATERIAL.				VALUE.
	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
District No. 2.																			$ cts
Antigonish	283	....	.....	3660	446	.....	.....	4270	7370	....	38000	326	240	240000	1810	4930	2050	...	81,720 00
Colchester	145	....	..	..	.....	2250	362	710	2300	...	29000	....	20	....	112	.....	320	....	10,206 00
Cumberland	315	... ..	40	16	264	700	160	200	2350	.....	11200	18	382	274920	20	...	691	...	48,115 00
Guysboro'	21544	13	50	300	4474	19240	6	.....	24600	7714	74050	391	.....	1033242	10077	....	5933	....	457,682 00
Halifax	38714	314	120	2416	3197	18322	.....	.....	13850	.....	23550	54	... ..	946337	37472	2549	2467	...	728,246 00
Hants	.....	....	.....	... .	.. ..	.....	228	3695	. ...	.....	.....	.. ..	.....	... ...	... ..	....	.....	....	6,870 00
Pictou	83	15	20	25	34	1000	.....	200	900	. .	12200	460	150	779280	200	.. ..	1687	1020	120,176 00
Grand Totals	61084	342	230	6417	8415	41512	756	9075	51370	7714	188000	1249	792	3273779	49691	7479	13148	1020	1,453,015 00
Value ..... $	244336	3420	920	25668	33660	4151	6804	545	5137	30856	11280	12490	2376	392859	19876	7479	19723	510	1,415,715 00
Fresh fish sold in the Halifax markets																			36,800 00
Live Lobsters shipped to United States																			500 00
																			1,453,015 00

RECAPITULATION

Of the Yield and Value of Fisheries in District No. 2, Nova Scotia.

Kinds of Products.	Quantities.	Rate.	Value.	Total.
		$ cts.	$	$
Salmon, pickled	Brls.	1,701	16 00	27,216	
do fresh, on ice	Lbs.	146,900	0 20	29,380	
do smoked	Lbs.	1,902	0 20	380	
do cans	Lbs.	2,006	0 15	300	
					57,276
Mackerel, pickled	Brls.	23,139	15 00	347,085	
do cans	Cans.	32,928	0 12	3,951	
					351,036
Herring, pickled	Brls.	40,424	4 00	161,696	
do smoked	Boxes	1,860	0 25	465	
					162,161
Alewives, pickled	Brls.	5,146	4 50	.....	23,157
Cod, dried	Cwt.	61,084	4 00	244,336	
Cod Tongues and Sounds	Brls.	342	10 00	3,420	
Pollock, dried	Cwt.	230	4 00	920	
Hake, dried	Cwt.	6,417	4 00	25,668	
do sounds	Lbs.	7,479	1 00	7,479	
Haddock, dried	Cwt.	8,415	4 00	33,660	
					315,483
Halibut	Lbs.	41,512	0 10	.....	4,151
Shad	Lbs.	756	9 00	.....	6,804
Bass	Brls.	9,075	0 06	.....	545
Trout	Lbs.	51,370	0 10	.....	5,137
Squid	Brls.	7,714	4 00	.....	30,856
Smelts	Lbs.	188,000	0 06	.....	11,280
Eels	Brls.	1,249	10 00	.....	12,490
Oysters	Brls.	792	3 00	.....	2,376
Lobsters	Cans.	3,273,779	0 12	.....	392,854
Fish Oil	Galls.	49,691	0 40	.....	19,876
do Guano	Tons.	.....	.....	.....	.....
do used as bait	Brls.	13,148	1 50	.....	19,723
do as manure	Brls.	1,020	0 50	.....	510
Fresh fish sold in Halifax markets		.....	.....	.....	36,800
Live Lobsters shipped to United States		.....	.....	.....	500
Total		.....	.....	.....	1,453,015

Comparative Statement of Value of Fisheries in each County of District No. 2, Nova Scotia, for the Years 1889 and 1890.

Counties.	1889.	1890.	Increase.	Decrease.
	$	$	$	$
Antigonish	101,773	81,720	.....	20,053
Colchester	9,212	10,206	994	.....
Cumberland	54,121	48,115	.....	6,006
Guysborough	404,173	457,682	53,509	.....
Halifax	640,922	728,246	87,324	.....
Hants	12,378	6,870	.....	5,508
Pictou	145,576	120,176	.....	25,400
Total	1,368,155	1,453,015	141,827	56,967
		1,368,155	56,967	
Increase	.....	84,860	84,860	

Percentage of increase 6·2.

COMPARATIVE STATEMENT of Increase and Decrease of the Several Products of the Fisheries in District No. 2, **Nova Scotia**, for the Years 1889 and 1890.

Kinds of Products.		Increase.	Decrease.
Salmon, pickled	Brls.		311
do fresh, in ice	Lbs.		109,917
do smoked	Lbs.		4,639
do preserved, in cans	Lbs.	214	
Mackerel, pickled	Brls.	3,388	
do preserved in cans	Lbs.		35,240
Herring, pickled	Brls.	2,405	
do smoked	Boxes	275	
Alewives, pickled	Brls.		2,174
Cod, dried	Cwt.	16,672	
Cod Tongues and Sounds	Brls.	156	
Pollock, dried	Cwt.	51	
Hake, dried	Cwt.		8,228
Hake Sounds	Lbs.		4,469
Haddock, dried	Cwt.	3,061	
Halibut	Lbs.		77,474
Shad	Brls.	221	
Bass	Lbs.		22,564
Trout	Lbs.		7,178
Squid	Brls.	4,176	
Smelts	Lbs.		53,535
Eels	Brls.	179	
Oysters	Brls.	299	
Lobsters	Cans.		105,394
Fish Oil	Galls.		4,957
do Guano	Tons.		200
do used as bait	Brls.	1,337	
do used as manure	Brls.		3,093

TABLE showing the Number and Value of Vessels, Boats, Nets and Weirs, engaged in the Fisheries of District No. 2, **Nova Scotia**, and Approximates of other Material not included in the Returns.

Articles.	Value.	Total.
	$	$
110 vessels, 2,574 tons	77,510	
5,592 boats	130,027	
1,368,167 square fathoms of nets	302,552	
14 weirs	3,325	
		513,414
Canning establishments	148,000	
Lobster traps and nets	94,328	
Ice houses for bait	20,000	
4,418 seines (not included in above)	117,920	
		380,248
Total		893,662

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men Employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Weirs.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herrings, smoked, in boxes.
Annapolis Co.			$			$			$		$				
Margaretville	4	59	1770	16	14	920	28	2100	1050			100		150	420
Port George					14	280	20	1400	700	2	300	2300	20	20	
Port Lorne and Hampton	1	16	480	3	26	520	40	4000	2000					100	
Phinney's Cove					12	240	14	1200	600					192	
Parker's and Young's Cove					34	680	51	2000	1000					110	
Litchfield and Hillsboro	1	76	2280	14	19	380	46	1140	570					40	
Thorne's Cove and Gut	4	155	4650	30	45	900	70	2700	1350					10	
Thorne's Cove to Ferry					10	175	14			3	300				2600
South side Basin	2	30	900	6	23	540	45	500	250	5	1200		40	5	3000
East side Basin												2000			
Lequille River												450			
Round Hill River												340			
Inland Lakes															
Totals	12	336	10080	69	197	4635	328	15040	7520	10	1800	5190	60	627	6020

District No. 3.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of **Nova Scotia,** for the Year 1890.

Kinds of Fish.												Fish Products.				Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Eels, barrels.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish Guano, tons.	Fish used as Bait, barrels.		
																$ cts.
....	179	4	127	.....	44	2700	..	.....	.....	....	120	.....	25	500		4,108 00
....	60	1	25	.....	15	800	....	.....	.....	....	55	.....	5	265		1,924 50
....	310	5	160	160	.....	3500	....	.....	.....	....	140	.....	27	400		4,921 00
...	76	....	.....	20	38	250	....	.....	.....	....	.....	.....	4	262		1,862 00
....	300	5	80	160	105	700	....	.....	.....	....	200	.....	20	410		4,535 00
....	460	7	108	490	980	2000	..	.....	.....	....	500	800	38	340		11,422 00
....	2100	10	600	280	2460	15000	....	.....	....	....	700	260	40	1010		26,855 00
....	20	....	6	.....	25	.....	....	.....	.....	....	.....	70	.....	10		939 00
....	400	3	125	40	314	5000	....	.....	.....	....	200	.....	10	220		6,176 00
40	....	...	.....	.....	.....	.....	20	2000	900	10	.....	.....	.....	.....		1,090 00
60	.....	....	.....	.....	.....	.....	....	.....	300	7	.....	.....	.....	.....		460 00
....	.....	....	.....	.....	.....	.....	....	500	.....	6	.....	.....	.....	.....		158 00
....	.....	....	.....	.....	.....	.....	...	.....	8000	10	.....	.....	.....	.....		900 00
100	3905	35	1231	1150	3981	29950	20	2500	9200	33	1915	1130	169	3417		65,350 50
															Lobsters sold alive, 52,600, at 4 cts.....	2,104 00
																67,454 50

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Weirs.			
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.
Digby Co.			$			$			$		$		
Digby	9	330	7200	65	5	125	10	375	150	....	....	....	300
Broad Cove	....	....	....	....	6	150	13	360	180	....	....	....	....
Gulliver's and Shelving Coves	....	....	....	....	9	180	18	500	200	3	150	250	205
Centreville	....	....	....	....	9	225	18	575	230	....	....	150	200
Sandy Cove	....	....	....	....	5	100	10	300	150	....	....	100	200
Mink Cove	....	....	....	....	8	240	16	640	320	1	900	....	600
Little River	....	....	....	....	27	665	54	1620	810	....	....	....	300
East Ferry	....	....	....	....	6	120	12	480	240	....	....	....	....
Smith's Cove	....	....	....	....	....	....	....	....	....	11	550	....	200
St. Mary's Bay	....	....	....	....	....	....	....	....	....	6	300	....	436
Weymouth	....	....	....	....	10	100	20	....	....	3	1500	....	1800
White's Cove	....	....	....	....	30	600	60	1200	600	....	....	....	1000
Church Point	....	....	....	....	16	320	32	400	200	....	....	....	50
Meteghan	....	....	....	....	12	240	24	240	120	....	....	....	120
Salmon River and Cape St. Mary	....	....	....	....	10	240	20	500	250	....	....	....	....
Westport	23	460	18000	160	35	1000	105	14000	7000	....	....	....	1500
Freeport	12	260	9000	96	72	2500	216	11000	5500	....	....	....	....
Tiverton	5	105	2600	32	35	1200	109	7000	3500	....	....	....	....
Totals	49	1155	36800	353	295	8005	737	39190	19450	24	3400	500	6911

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.											Fish Products.				Value.
Herring, barrels.	Herrings, smoked, in boxes.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Squid, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
															$ cts.
....	....	2040	....	76	2420	1030	46000	....	....	26700	5150	800	1000	1000	39,428 00
....	....	120	....	....	245	150	.....	....	....	.....	480	200	120	450	2,857 00
100	....	1200	....	155	254	150	500	....	15	....	500	360	100	500	11,631 00
....	....	625	....	67	4284	2137	.. ...	....	....	200	840	1160	125	600	33,489 50
....	....	125	....	100	228	180	.....	....	....	... ..	800	370	250	300	6,767 00
150	....	400	....	200	406	320	....	....	....	.....	800	640	200	700	16,514 00
....	....	180	...	270	2193	1080	2700	....	....	.....	2430	1160	540	1200	23,204 00
....	....	180	....	.....	125	120	.....	....	....	.....	450	80	150	75	2,222 50
....	3000	.. ..	....	.....	.....	....	.....	....	10	.....	... .	.....	300	250	4,365 00
....	...	....	....	....	.....	.....	.....	5	...	.....	.....	.....	.....	...	6,590 00
200	....	.....	....	..	.. ...	.....	...	....	....	.....	.....	.....	50	100	27,925 00
....	....	.....	....	.....	.	1500	.....	...	..	.....	.....	....	675	1000	22,512 50
....	...	.....	....	.....	.....	750	.....	....	....	...	.....	.....	320	550	4,505 00
....	...	600	....	....	.....	120	.. ..	....	....	... .	120	.....	60	50	4,843 00
....	....	200	....	.....	.	300	....	....	....	.....	500	...	250	300	2,725 00
600	....	28200	48	17400	19500	22700	72000	....	....	.....	38800	8240	4500	675	414,627 50
710	....	18800	25	10700	15100	12300	38000	....	....	... ..	21600	4920	2800	770	252,635 00
200	....	3400	14	3150	2900	2800	13500	....	....	... ..	5500	670	1100	280	55,950 00
1960	3000	56070	87	32118	47655	45637	172700	5	25	26900	77970	18600	12540	8800	932,791 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.		Weirs.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.
King's Co.			$			$			$		$	
Avonport					12	200	12	3000	1500	1	500	
Aylesford												1000
Gaspereaux												400
Kentville												
Bout Island								2200	600	1	600	
Blomidon	1	11	100	2	1	20	2	330	50	1	200	
Baxter's Harbour					15	300	30	1200	500	2	400	1200
Black Rock					6	120	12	360	180	4	800	
Chipman Bank	1	10	200	3	6	180	12	1480	350	2	400	1000
Hall's Harbour	3	35	1200	9	20	360	40	5440	1200	8	2000	6900
Hunting Point								250	150	1	400	1500
Harbourville					6	100	12	200	100	6	1200	2000
Kingsport	2	24	250	6								
Long Island										1	300	
Morden								500	250	3	500	950
Pereau										1	150	
Starr's Flats										3	1000	
Scott's Bay								3080	750	2	1000	
Totals	7	80	1750	20	66	1280	120	18040	5630	36	9450	14950

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.												Fish Products.			Value.
Mackerel, barrels.	Herring, barrels.	Herring, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Fish oil, galls.	Fish, used as bait, barrels.	Fish, used as manure, barrels.	
															$ cts.
....	.....	.....	900	.....	....	....	..	12	....	.....	....	....	.....	....	4,170 00
....	.....	.....	.....	.....	....	....	.....	....	800	.....	....	.....	.....	.....	280 00
....	.....	.....	900	.....	...	....	.....	....	1000	5000	9	.....	.....	.....	4,620 00
....	...	...	.....	.....	....	....	.....	.....	..	1000	....	.....	.....	.....	60 00
....	.....	.....	.....	.....	....	....	.....	125	....	.....	....	.....	.....	.....	1,250 00
5	40	500	.....	18	....	10	.....	5	.....	.....	....	50	10	40	577 00
15	320	1000	.....	320	90	250	1200	....	.....	.....	....	200	75	175	5,035 00
30	495	1500	.....	140	26	30	.....	....	.....	.....	....	.....	20	100	3,669 00
6	250	.....	.....	210	55	20	....	....	.....	.....	....	90	25	100	2,553 50
50	1000	360	.....	600	100	420	....	....	.....	.....	....	300	500	500	11,820 00
4	150	.....	.....	40	25	40	.....	....	.....	.....	....	.....	75	90	1,537 50
75	600	2500	.....	75	25	....	....	....	.....	.....	....	.....	50	300	5,175 00
....	.....	.....	.....	60	15	15	.....	....	.....	.....	....	.....	30	.....	405 00
....	.....	.....	.....	.....	....	....	....	65	.....	.....	....	.....	.....	.....	650 00
25	336	.....	.....	20	10	....	.....	....	..	.....	...	.....	7	.....	2,039 50
7	20	....	.....	8	4	9	.....	8	.....	.....	....	.....	5	20	366 50
....	.....	.....	.....	.....	....	....	.....	150	.....	.....	....	.....	.....	.....	1,500 00
....	...	300	.....	10	....	...	.....	364	.....	.....	....	.....	.....	....	3,755 00
217	3211	6160	1800	1501	350	794	1200	729	1800	6000	9	640	797	1325	49,463 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								
	Vessels.				Boats.			Nets.		Weirs.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.
Lunenburg Co.			$			$			$		$					
Chester	3	139	2500	21	70	2605	94	27740	4315	9	3600	8000	300	2530	24000	317
Martin's River	3	257	10000	38	88	1465	63	15500	1420	2	800	1500	165	668	.....	245
Fox Point	1	39	2500	9	85	2130	129	70000	7305	...	.....	455	....	1135	.....	855
Mill Cove	1	21	400	3	73	1670	89	59000	6250	...	.....	500	....	1245	.....	750
Lodge	...	.....	.....	...	22	350	28	25500	1750	...	.....	325	....	345	.....	290
N.W. Cove	...	.....	.....	...	49	1790	55	39500	4050	...	.....	770	....	1485	.....	765
Aspotogan	1	11	200	3	27	810	29	18000	1300	...	.....	245	....	830	.....	450
Sandy Beach	...	.....	.....	....	41	995	46	39000	3250	...	.....	360	....	660	.....	730
Blandford	...	.....	.....	....	85	2170	86	78000	5870	1	400	485	50	2470	.....	1734
Little Tancook	...	.....	.....	...	36	1740	34	47500	4470	...	.....	155	....	590	.....	505
Big Tancook	...	.....	.....	....	169	7557	166	143800	15470	...	.....	620	...	2265	.....	4745
Deep Cove	...	.....	.....	....	27	640	35	24500	2800	1	400	310	....	740	.....	275
Lunenburg to Cross Island	81	7250	462000	1160	118	5432	138	19706	5088	...	.....	.....	....	700	.....	1318
Mahone Bay and Indian Point Islands	19	1483	90000	219	20	900	30	2500	1050	...	.....	.....	....	403	.....	1164
E. S. La Have to New Dublin	59	4700	295000	830	440	9680	340	40700	18000	...	.....	60	40	1500	. . .	5000
Petite Rivière to E. Port Medway	9	650	45000	117	210	5500	185	30000	10500	...	.....	40	35	1100	.....	4500
Totals	177	14550	907600	2400	1540	45434	1547	680946	92878	13	5200	13825	590	18666	24000	23643

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.				Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
198	1127	8	155	150	25	1000	..	460	52	700	9	90000	652	150	130	36	63,186 80
46	1039	16	28	....	.....	1100	..	300	36	875	15	.....	400	....	220	36	16,962 50
24	817	8	....	600	.....	.....	..	136	....	220	2	....	617	500	117	31	27,376 60
6	247	.....	28	38	31	.....	..	60	3	150	1	.....	94	..	19	25	23,293 60
7	290	.....	42	42	.....	.....	..	....	1	....	....	.....	40	14	4	3	7,969 00
7	207	2	42	30	....	. ...	..	....	3	....	2	.....	140	7	34	57	26,831 00
10	144	1	58	11	.....	105	..	95	1	....	....	35000	88	....	11	8	19,485 70
17	217	1	58	....	..	175	..	.....	2	....	3	.....	203	....	21	15	14,254 20
22	497	3	168	....	247	200	..	.....	28	....	6	.....	239	....	72	25	48,278 10
12	400	. ....	30	16	290	200	..	.....	8	....	....	...	200	6	63	56	14,159 50
16	1537	8	48	81	151	270	..	.....	6	....	2	40000	387	50	108	147	65,810 30
35	37	. ...	17	50	. ...	.....	..	58	7	345	11	. ..	148	57	28	27	13,171 70
15	122622	200	200	...	8798	65300	..	....	15	....	4	50000	25260	....	161	573	567,581 50
18	11491	50	....	....	296	14780	..	....	5	....	....	.....	5700	....	30	95	62,300 50
100	46300	150	120	500	4360	55000	5	...	220	500	60	20000	3000	....	400	1719	261,709 50
75	8085	22	5500	60	250	30000	6	....	75	2000	15	21600	.....	....	150	860	97,529 50
608	195057	469	6494	1578	14448	168130	11	1109	462	4790	130	256600	37168	784	1568	3713	1,329,900 00
												Scollops, 600 dozen at 50c.					300 00
												Clams, cans, 6,000 at 12c.					720 00
												Grand total					1,330,920 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Herring, barrels.
Queen's County.			$			$			$				
Liverpool	2	106	4500	20	23	340	32	1100	500	2272	....	400	137
Port Mouton	....	....	....	....	54	1570	80	6000	1800	....	....	....	1780
Brooklyn	4	102	4500	27	21	481	37	1100	440	600	....	63	197
Port Joli	....	....	....	....	25	700	30	120	60	....	....	....	40
Port Hébert	1	15	100	5	8	125	8	150	45	....	....	....	20
Somerville	....	....	....	....	7	70	8	280	112	....	....	....	80
Hunt's Point	....	....	....	....	14	900	40	4800	1120	....	....	10	350
White Point	....	....	....	....	10	130	20	2000	1000	....	....	....	400
Beach Meadow	....	....	....	....	6	90	6	250	120	200	....	....	70
Coffin Island	....	....	....	....	15	300	25	1000	400	....	....	....	266
Eagle Head	....	....	....	....	10	300	15	360	180	350	....	5	60
West Berlin	....	....	....	....	19	240	19	1200	350	50	....	13	180
East Berlin	....	....	....	....	20	240	20	1000	500	140	....	....	120
West Head	....	....	....	....	46	920	64	2800	700	....	....	60	880
Moose Harbour	....	....	....	....	8	100	14	900	400	....	....	10	295
Black Point	....	....	....	....	4	45	4	260	130	....	....	....	70
Milton	....	....	....	....	10	100	10	75	40	2556	....	....	....
Gull Island	....	....	....	....	7	110	10	600	240	....	....	....	100
East Head	....	....	....	....	10	160	10	350	136	200	....	....	120
Long Cove	....	....	....	....	5	85	5	240	100	250	....	5	35
Mill Village	....	....	....	....	52	392	48	1800	630	3775	250	....	....
Port Medway	8	681	28200	110	86	2000	92	8800	1900	7000	....	356	587
Ponhook	....	....	....	....	8	88	35	166	110	1000	....	....	....
Totals	15	904	37300	162	468	9486	632	35351	11013	18393	250	922	5787

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.		Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	
															$ cts.
12	94				7	1600							285	50	7,809 40
	1025				120	600						40176	570	150	17,034 12
25	1080			285	60	700							513	200	8,240 70
	520										10		260		2,444 00
	170												85		794 00
	100				10								60	30	829 00
	550				30	1000							300	100	4,240 00
	340				30	500							190	150	3,431 00
	20				5								13	10	440 20
	333			200	80	500						31200	307	100	7,582 80
	50				10								30	16	661 00
2	120		12		20	150							70	40	1,645 00
	250				30								160	350	2,217 00
	926		10		208	550							560	50	9,350 00
	120				15								70	40	1,958 00
	125				15							23000	70	35	3,680 50
60															781 20
	175				25								100	25	1,277 50
	70				6	60							35	15	866 50
25	95				11								50	20	851 50
2040							26	1800		17300	11				11,573 00
1300	9816	15	30	400	160	5400	12	250	20	7200	19	41039	5875	320	65,853 68
515								2500			5				2,817 50
3979	15979	15	52	885	842	11060	38	4550	20	24500	45	135415	9603	1701	156,377 60

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.		Weirs.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.
Shelburne Co.			$			$			$		$	
Barrington	4	192	5900	45	44	1080	44	11675	1000	...	...	500
Wood's Harbour	7	138	4450	53	100	1900	98	19000	1625	1	1600	....
Shag Harbour	3	69	1500	23	35	800	33	16000	1300	....	.....	....
Bear Point	1	13	325	5	55	1000	30	9600	900	....	.....	...
Cape Island	7	285	8900	66	340	6550	390	36000	4075	7	10250	....
Port Latour and Baccaro	3	115	5500	21	200	2800	112	52000	5000	...	...	....
Upper Port Latour	1	11	450	5	38	360	30	5170	595	...	.....	..
Cape Negro and Blanche	....	..	.....	....	65	700	61	11700	750	....	.....	....
Cape Negro Island	..	....	.. ..	..	47	900	50	5600	850	1	1000	....
Port Clyde	....	....	.....	....	3	20	3	400	24	....	.....	2000
North-East Harbour and East Clyde	2	38	1300	13	9	855	18	6300	900	...	.....	500
Black Point, Red Head and Round Bay	....	....	.....	....	40	2900	82	16000	1350	....	.....	....
Roseway and McNutt's Island	....	....	.....	....	43	3000	80	15750	1600	....	.....	...
Churchover, Gunning and Birchtown	...	..	.....	...	36	1550	60	5000	500	...	.....	150
Shelburne and Sand Point	5	409	17000	82	50	1100	80	18750	2000	...	.....	350
Jordan Bay	4	219	10900	50	25	1250	38	7500	700	...	.....	....
Jordan Ferry	..	....	.....	....	29	1200	45	5000	500	....	.....	100
Lockeport	22	1350	70000	280	40	2400	75	8000	2000	...	...	200
Totals	59	2839	126225	643	1199	30365	1329	249445	25669	9	12850	3800

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.		Value.
Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	$ cts.
25		100	650	2490	130	350	2000	500			55		1600	1800	19,920 00
212		500		600	20	88	8000					100272	400	3300	25,954 64
130		200		810	100	225	6000						300	310	8,475 00
	2880	137		246	35	100	1000					54096	95	350	9,658 52
1231		1048		12500	230	2850	78700		40			25000	5000	5200	105,707 00
12		500		3562	3500	1072	3000						5857	1340	39,368 80
		30		1266	300	325	2000				25		1060	375	9,120 50
		125		1050	40	150	3000						700	390	6,625 00
125		1000		2800	275	875	3300						2700	600	23,985 00
			350	16											2,039 00
33		95	25	830		128					10		290	20	5,165 50
18		780		836	22	826							705		10,408 00
28		602	25	760	140	731						7680	805		10,708 10
35		1238	75	485	87	365							392	40	9,809 30
67		1550	100	7239	12	291		4000				25000	2870	150	42,666 00
15		535		4244	30	515						28608	1463		25,539 16
92		500		366	8	229				5000			80		6,144 00
150		2200	45	23000	100	1000	40000	1500					8000		115,042 50
2173	2880	11140	1270	63100	5029	10120	147000	6000	40	5000	90	240656	32317	13875	476,336 02

Lobsters, sold and exported alive, 1,914,300, at 4c	76,572 00
Mackerel, exported fresh, 770,900, at 6c.	46,254 00
Herrings, canned, 6,336 lbs., at 10c.	633 60
	599,795 62

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Weirs.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.
			$			$			$		$				
Yarmouth Co.															
Arcadia and Little River...	2	30	900	6	50	750	100	3000	900	..	.....	....	50	....	150
Tusket Wedge	9	607	20000	136	50	750	100	3000	900	1	200	...	450	...	150
Salmon River	...	...	...	...	80	1100	50	5000	1500	..	.....	850	300	...	....
Tusket	3	21	690	18	160	1920	190	20000	6000	1	200	1600	....	....	....
East and West Branches...	...	...	...	...	70	840	100	4000	1200	..	.....	800	...	....	....
Eel Lake and Brook.....	1	35	850	4	50	600	100	3000	900	..	.....	....	50	..	...
Argyle	4	126	3700	15	27	405	54	180	54	1	300	....	555	7000	30
West Pubnico.....	12	812	36600	216	35	520	70	2000	600	*1	2000	...	650	....	...
East Pubnico	7	619	29200	126	7	98	14	960	288	1	300	....	928	...	30
Yarmouth.....	16	1210	46000	546	13	156	26	1700	510	*4	8000	...	1805	....	430
Maitland.....	7	64	1700	24	15	225	20	1600	480	*1	2000	....	1560	....	200
Sandford.....	4	115	4600	30	25	350	50	3000	900	*2	4000	....	225	....	500
Totals.....	65	3639	144240	1121	582	7714	874	47440	14232	12	17000	3250	6573	7000	1490

*Traps

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.															Fish Products.			Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, galls.	Hake Sounds, lbs.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
30	200	....	20	....	50	2000	..	....	..	1000	7	90660	.....	..	....	....	1500	14,524 20
30	8250	25	194	20	419	12155	..	.....	....	.....	....	....	3500	10	....	200	....	46,192 50
1540	....	....	....	....	....	....	..	400	....	5000	10	.. ..	.....	..	....	....	....	12,040 00
2550	200	...	...	....	40	300	20	500	....	40000	40	.....	12	..	....	....	....	15,339 80
850	.. ..	....	....	....	....	.. ..	15	1200	..	....	....	.....	.....	..	....	.. ..	....	4,255 00
400	500	....	....	20	....	.....	..	750	....	3000	250	....	30	..	....	.. ..	....	7,397 00
40	2140	5	5	....	500	500	..	....	....	500	...	4800	200	..	....	40	1000	21,601 00
....	8753	...	1500	...	36	10200	..	....	....	.....	....	.. ..	3000	..	....	676	....	54,140 00
25	7700	....	675	...	750	9000	..	.....	200	.....	....	.. ..	3000	..	...	100	....	53,702 50
....	10650	...	1100	50	1550	7800	..	800	100	.....	....	54000	5400	50	....	1250	. ..	94,020 00
....	1500	5	400	....	300	3000	..	...	....	.....	....	.....	500	..	35	150	...	35,000 00
....	1250	....	...	....	300	32000	..	...	50	.....	....	.....	150	..	...	150	....	15,260 00
5465	41143	35	3894	90	3945	76955	35	3650	350	49500	307	149460	15792	60	35	2566	2500	373,972 00

Live lobsters shipped to United States, 1,422 tons, at $35	$49,770 00	
Finnan Haddies, 8,000 lbs., at 8c.....	640 00	
Smoked Alewives, 130,000, at 80c. per 100....	1,040 00	
		51,450 00
		425,422 00

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed in District No. 3 of the **Province of Nova Scotia,** for the Year 1890.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS OF FISH.							
	Vessels.				Boats.			Nets.		Weirs.									
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.
District No. 3.			$			$			$		$								
Annapolis	12	336	10080	69	197	4635	328	15040	7520	10	1800	5190	....	60	.....	627	6020	100	3905
Digby	49	1155	36800	353	295	8085	737	39190	19450	24	3400	500	...	6911	..	1960	3000	.....	56070
King's	7	80	1750	20	66	1280	120	18040	5630	36	9450	14950	...	217	.....	3211	6160	1800	1501
Lunenburg	177	14550	907600	2400	1540	45434	1547	680946	92878	13	5200	13825	590	18666	24000	23643	...	608	195057
Queen's	15	904	37300	162	468	9486	632	35351	11013	.....	.....	18393	250	922	....	5787	..	3979	15979
Shelburne	59	2839	126225	643	1199	30365	1329	249445	25669	9	12850	3800	....	2173	2880	11140	...	1270	63100
Yarmouth	65	3639	144240	1121	582	7714	874	47440	14232	12	17000	3250	....	6573	7000	1490	....	5465	41143
Totals	384	23503	1263995	4768	4347	106999	5567	1085452	176392	104	49700	59908	840	35522	33880	47858	15180	13222	376755

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—**Nova Scotia**—*Concluded.*

COUNTIES.	KINDS OF FISH.												FISH PRODUCTS.					VALUE.
	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelts, lbs.	Eels, barrels.	Lobster, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish Guano, tons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
District No. 3.																		$ cts.
Annapolis	35	1231	1150	3981	29950	20	2500	9200	.....	.....	33	.....	1915	1130	169	3417	...	65,350 50
Digby	87	32118	47655	45637	172700	5	.....	.....	25	.....	.....	26900	77970	18600	.....	12540	8800	932,791 00
King's	.....	350	....	794	1200	729	.....	1800	.....	6000	9	.....	640	....	.....	797	1325	49,163 00
Lunenburg	469	6494	1578	14448	168130	11	.....	1109	462	4790	130	256600	37168	784	.....	1568	3713	1,329,900 00
Queen's	15	52	885	842	11060	38	.....	4550	20	24500	45	135415	9603	.....	.....	1701	.....	156,377 60
Shelburne	....	5029	...	10120	147000	.....	.....	6000	40	5000	90	240656	32317	.....	.....	13875	....	476,336 02
Yarmouth	35	3894	90	3945	76955	35	.....	3650	350	49500	307	149460	15792	60	35	2566	2500	373,972 00
Totals	641	49168	51358	79767	606995	838	2500	26309	897	89790	614	809031	175405	20574	204	36464	16338	3,384,190 12

Annapolis—Lobsters, alive, exported	$ 2,104 00	
Digby—Lobsters, alive, exported	104,650 00	
Haddock, fresh do		
Finnan Haddies do		
Lunenburg—Clams	1,020 00	
Scallops		
Queen's—Lobsters, alive, exported	5,980 00	
Clams		
Shelburne—Lobsters, alive, exported	123,459 60	
Mackerel, fresh do		
Herrings, canned		
Yarmouth—Lobsters, alive, exported	51,450 00	
Alewives, smoked		
Finnan Haddies		
		288,663 60
Total		3,672,853 72

RECAPITULATION

Of the Yield of the Fisheries for District No. 3, **Nova Scotia**, 1890.

Kind of Products.		Quantities.	Rate.	Value.
			$ cts.	$ cts.
Alewives, pickled	Brls.	13,222	4 50	59,499 00
do smoked	No.	130,000	80c. p. 100	1,040 00
Bass	Lbs.	2,500	0 06	150 00
Clams	Brls.	80	7 00	560 00
do	Cans.	6,000	0 12	720 00
Cod, dried	Cwt.	376,755	4 00	1,507,020 00
Eels	Brls.	614	10 00	6,140 00
Fish oil	Galls.	175,405	0 40	70,162 00
do guano	Tons.	204	35 00	7,140 00
do used as bait	Brls.	36,464	1 50	54,696 00
do used as manure	"	16,338	0 50	8,169 00
Haddock, dried	Cwt.	79,767	4 00	319,068 00
do fresh	Lbs.	400,000	0 04	16,000 00
do smoked	"	158,000	0 08	12,640 00
Hake, dried	Cwt.	51,358	4 00	205,432 00
do Sounds	Lbs.	20,574	1 00	20,574 00
Halibut	"	606,995	0 10	60,699 50
Herring, pickled	Brls.	47,858	4 00	191,432 00
do smoked	Boxes	15,180	0 25	3,795 00
do preserved	Cans.	6,336	0 10	633 60
Lobsters, do	"	809,031	0 12	97,083 72
do shipped alive	Tons.	3,612	35 00	126,420 00
do do	No.	2,102,400	0 04	84,096 00
Mackerel, pickled and fresh	Brls.	35,522	15 00	532,830 00
do shipped fresh	No.	770,900	0 06	46,254 00
do preserved	Cans.	33,880	0 15	5,082 00
Pollock, dried	Cwt.	49,168	4 00	196,672 00
Salmon, sold fresh	Lbs.	59,908	0 20	11,981 60
do smoked	"	840	0 20	168 00
Scallops	Doz.	600	0 50	300 00
Shad	Brls.	838	10 00	8,380 00
Smelts	Lbs.	89,790	0 06	5,387 40
Squid	Brls.	897	4 00	3,488 00
Tongues and Sounds	"	641	10 00	6,410 00
Trout	Lbs.	26,309	0 10	2,630 90
Total				3,672,753 72

TABLE showing the Number and Value of Vessels and Boats, Nets and Weirs engaged in the Fisheries of District No. 3 of **Nova Scotia**, and an Approximate Estimate of other Material not included in the Returns.

Articles.	$ cts.	$ cts.
384 vessels, 23,503 tons	1,263,995 00	
4,347 boats	106,999 00	
1,085,452 fathoms of nets	176,392 00	
104 weirs	49,700 00	
		1,597,086 00
Canning establishments	46,280 00	
Seines	15,700 00	
Lobster traps	36,000 00	
Steamers and smacks	11,200 00	
Smoke houses, &c	2,106 00	
		111,286 00
Total		1,708,372 00

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in the Whole **Province of Nova Scotia**, for the Year 1890.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS OF FISH.								
	Vessels.				Boats.			Nets.		Weirs.										
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, brls.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, brls.	Mackerel, in cans.	Herring, brls.	Herrings, smoked, in boxes.	Alewives, brls.
			$			$			$		$									
Cape Breton	11	160	2190	40	625	23126	1375	61790	26767	...	...	18	11568	150	2000	1205	...	7269	120	301
Inverness	17	679	19000	133	866	21515	2347	110268	46337	....	....	42	69346	....	4036	5614	19300	9743	....	1226
Richmond	75	4161	49950	744	1276	17915	2308	431860	166922	....	....	22	....	....	....	3382	5300	13278	...	992
Victoria	....	....	....	....	987	20844	3034	72857	44190	...	.....	259	.....	.....	.....	1647	.....	7482	...	561
Antigonish	....	....	....	....	249	6700	516	124500	48000	...	.....	....	33000	...	...	677	.....	246	...	365
Colchester	....	....	....	....	66	1698	125	10935	2377	10	3125	....	12954	...	....	.....	.....	100	1860	20
Cumberland	2	60	2000	7	125	2639	199	3309	2484	3	80	....	6200	.....	.....	34	.....	550	....	852
Guysboro'	17	446	11900	95	2054	42355	2611	277240	120877	...	....	1	23470	1110	2006	7817	26208	8901	...	2284
Halifax	91	2068	63610	609	2865	73259	2919	939455	118796	...	....	1700	15891	792	....	14532	6720	29284	.....	798
Hants	....	....	....	....	131	1678	141	5464	3454	1	120	...	4655	....	....	....	....	51	...	769
Pictou	....	....	....	....	102	1698	146	7264	6564	....	....	....	50730	....	....	79	.....	1292	...	58
Annapolis	12	336	10080	69	197	4635	328	15040	7520	10	1800	....	5190	....	....	60	.....	627	6020	100
Digby	49	1155	36800	353	295	8085	737	39190	19450	24	3400	....	500	....	....	6911	.....	1960	3000	....
King's	7	80	1750	20	66	1280	120	18040	5630	36	9450	....	14950	....	....	217	.....	3211	6160	1800
Lunenburg	177	14550	907600	2400	1540	45434	1547	680946	92878	13	5200	....	13825	590	....	18666	24000	23643	....	608
Queen's	15	904	37300	162	468	9486	632	35351	11013	....	....	....	18393	250	....	922	..	5787	.....	3979
Shelburne	59	2839	126225	643	1199	30365	1329	249445	25669	9	12850	....	3800	....	....	2173	2880	11140	.....	1270
Yarmouth	65	3639	144240	1121	582	7714	874	47440	14232	12	17000	....	3250	..	....	6573	7000	1490	.....	5465
Totals	597	31077	1412645	6396	13693	320426	21288	3130394	763160	118	53025	2042	287722	2892	8032	70509	91408	126054	17160	21448

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels, &c.—**Nova Scotia**—*Concluded.*

COUNTIES.	KINDS OF FISH.																FISH PRODUCTS.				VALUE.
	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Bass, lbs.	Trout, lbs.	Squid, brls.	Smelts, lbs.	Eels, brls.	Oysters, brls.	Lobsters, cans.	Fish Oil, galls.	Fish Guano, tons.	Fish used as bait, brls.	Fish used as manure, brls.	$ cts.
Cape Breton	20515	...	30	...	...	2615	34280	13	...	8480	...	21350	225	26	242428	9337	63	2352	...	190,051 26
Inverness	35552	95	...	1560	1730	3011	4040	...	...	59432	2115	115300	839	1900	173066	15506	...	2880	1800	377,339 12
Richmond	92144	277	...	...	...	14610	...	...	...	...	...	1800	237	...	1571828	6850	...	210	...	755,732 36
Victoria	21854	...	...	...	320	1756	830	...	...	2350	2313	5500	78	295	91584	12629	...	2500	70	187,453 18
Antigonish	283	...	...	3660	4930	446	...	...	4270	7370	...	38000	326	240	240000	1810	...	2050	...	81,720 00
Colchester	145	...	...	...	...	...	2250	362	710	2300	...	29000	..	20	...	112	...	320	...	10,206 00
Cumberland	315	...	40	16	...	264	700	160	200	2350	...	11200	18	382	274920	20	...	691	...	48,115 00
Guysboro'	21544	13	50	300	...	4474	19240	6	...	24600	7714	74050	391	...	1033242	16077	..	5933	...	457,682 00
Halifax	38714	314	120	2416	2549	3197	18322	...	...	13850	...	23550	54	...	946337	37472	...	2467	...	728,246 00
Hants	...	...	...	...	...	...	...	228	3695	...	...	...	...	...	...	...	...	...	...	6,870 00
Pictou	83	15	20	25	...	34	1000	...	200	900	...	12200	460	150	779280	200	...	1687	1020	120,176 00
Annapolis	3905	35	1231	1150	1130	3981	29950	20	2500	9200	...	...	33	...	...	1915	169	3417	...	*67,454 50
Digby	56070	87	32118	47655	18600	45637	172700	5	...	...	25	...	...	...	26900	77970	...	12540	8800	*1,037,441 00
King's	1501	...	350	...	...	794	1200	729	...	1800	...	6000	9	...	...	640	...	797	1325	*49,463 00
Lunenburg	95057	469	6494	1578	784	14448	168130	11	...	1109	462	4790	130	...	256600	37168	...	1568	3713	*1,330,920 00
Queen's	15979	15	52	885	...	842	11060	38	...	4550	20	24500	45	...	135415	9603	...	1701	...	*162,357 60
Shelburne	63100	...	5029	...	...	10120	147000	...	...	6000	40	5000	90	...	240656	32317	...	13875	...	*599,795 62
Yarmouth	41143	35	3894	90	60	3945	76955	35	...	3650	350	49500	307	...	149460	15792	35	2566	2500	*425,422 00
Totals	607904	1355	49428	59335	30103	110174	687657	1607	11575	147941	13039	421740	3242	3013	6161716	269418	267	57554	19228	6,636,444 64

* The value of these counties includes also value of fish not enumerated in these columns. *See* County Returns.

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of **Nova Scotia**, for the Year 1890.

Kinds of Fish.	Prices.	Quantity.	Value.	Total.
	$ cts.		$ cts.	$ cts.
Salmon, pickled.. Brls.	16 00	2,042	32.672 00	
do fresh.. Lbs.	0 20	287,722	57,544 40	
do smoked.. "	0 20	2,892	578 00	
do cans.. "	0 15	8,032	1,205 40	
				91,999 80
Mackerel.. Brls.	15 00	70,509	1,057,635 00	
do cans.. Lbs.	*	91,408	11,985 00	
do fresh.. No.	0 06	770,090	46,254 00	
				1,115,874 00
Herring.. Brls.	4 00	126,054	504,216 00	
do smoked.. Boxes.	0 25	17,160	4,290 00	
do cans.. Lbs.	0 10	6,336	633 60	
				509,139 60
Alewives.. Brls.	4 50	21,448	96,516 00	
do smoked.. No.	80c. p. 100	130,000	1,040 00	
				97,556 00
Cod.. Cwt.	4 00	607,904	2,431,616 00	
do Tongues and Sounds.. Brls.	10 00	1,355	13,550 00	
				2,445,166 00
Haddock.. Cwt.	4 00	110,174	440,696 00	
do fresh.. Lbs.	0 04	400,000	16,000 00	
do smoked.. "	0 08	158,000	12,640 00	
				469,336 00
Pollock.. Cwt.	4 00	49,428	.....	197,712 00
Hake.. "	4 00	59,335	237,440 00	
do Sounds.. Lbs.	1 00	30,103	30,103 00	
				267,543 00
Halibut.. "	0 10	687,657	.....	68,765 50
Bass.. "	0 06	11,575	.....	695 00
Trout.. "	0 06	147,941	.....	14,794 10
Smelts.. "	0 06	421,740	.....	25,304 40
Shad.. Brls.	*	1,607	.....	15,314 00
Eels.. "	10 00	3,242	.....	32,420 00
Squid.. "	4 00	13,039	.....	52,056 00
Oysters.. "	3 00	3,013	.....	9,039 00
Clams..	.....	.....	.....	1,280 00
Scallops.. Doz.	.....	600	.....	300 00
Lobsters, in cans.. Lbs.	0 12	6,161,716	739,406 44	
do alive, &c.. Tons.	*	3,632	126,920 00	
do do .. No.	.....	2,102,400	84,096 00	
				950,422 44
Fish Oil.. Galls.	0 40	269,418	.....	107,766 80
Fish used as Bait.. Brls.	1 50	57,554	.....	86,332 00
do Manure.. "	0 50	19,228	.....	9,614 00
Fish Guano.. Tons.	*	267	.....	8,715 00
Home Consumption in Halifax and Richmond County not included above..	.....	.....	.....	59,300 00
Total for 1890..	.....	.....	.....	6,636,444 64
do 1889..	.....	.....	.....	6,346,722 00
Increase..	.....	.....	.....	289,722 64

* Inspectors used different prices.

TABLE showing the Value of Vessels, Boats, Nets, &c.. engaged in the Fisheries of **Nova Scotia,** with an Approximate Value of other Fishing Material, for the Year 1890.

Articles.	Value.	Total.
	$	$
597 vessels, 31,077 tons	1,412,645	
13,693 boats	320,426	
3,130,394 fathoms of nets	763,160	
118 weirs	53,025	
Seines	139,040	
		2,688,296
Canning establishments	252,480	
Lobster traps	162,828	
		415,308
Trawls, hand lines, &c.	34,100	
Steamers, smacks, &c.	25,500	
Smoke houses	2,106	
Ice houses	20,000	
Fishing piers, &c.	58,000	
		139,706
Total		3,243,310

STATEMENT of Men Employed in the Fishing Industry.

Description.	Number.
Sailors	6,396
Boat fishermen	21,288
Total	27,684

APPENDIX B.

NEW BRUNSWICK.

District No. 1, comprising the County of Charlotte.
Inspector, J. H. Pratt, St. Andrews.

District No. 2, comprising the Counties of Ristigouche, Gloucester, Northumberland, Kent and Westmoreland.—**Inspector, R. A. Chapman, Moncton.**

District No. 3, comprising the Counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.—**Inspector, D. Morrow, Oromocto.**

DISTRICT No. 1.

REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK, FOR 1890, BY INSPECTOR J. H. PRATT.

St. Andrews, N.B., 31st December, 1890.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit the following as my second annual report of the fisheries of District No. 1, Province of New Brunswick, for the year ending 31st December, together with the usual statistics and reports of the several officers under my supervision.

STATISTICAL RETURNS.

These returns, I regret to report, show a slight decrease in the catch and value of the fisheries, the relative difference between the years 1889 and 1890 being :—

Value of product, 1889	$1,373,589 26
do 1890	1,062,756 10
A decrease of	310,833 16

This deficit is to be found in the decreased catch of large herring, which last winter were unusually late in "striking" our shores, and when they did strike in, the large arrivals of frozen herring from Newfoundland had filled the United States markets, dropping prices down to a very low figure. Many fishermen, in consequence, did not engage in this branch of the fisheries. During the summer season, herring suitable for smoking purposes failed to visit the shores of Grand Manan in such large schools as in former years, and accordingly the number of boxes put up show quite a falling off.

All other fisheries, however, are in a prosperous condition, and show a considerable increase in value.

DUTY OF FRESH FISH.

I might mention that there is a strong feeling among the inhabitants of this district that an export duty on fresh fish exported in foreign vessels would help our fishermen to a large extent.

CURING OF HERRING.

A large number of copies of the report of the delegates sent by your Department to investigate the methods employed in catching and curing herring in the United Kingdom and the continent of Europe, has been judiciously distributed among our fishermen, and has been the means of provoking much discussion and argument among them regarding the proper methods of handling this fish. They feel, however, that they can cure and pack herring as well as any fishermen in the world, and they give as a reason for not putting up this fish in a better manner than at present, that on account of the absence of compulsory inspection, the careless and indolent fishermen who put up poor fish receive as good a price as those who are painstaking and preserve their catch in a proper manner.

BAIT.

Notwithstanding the constant assertions of fishermen in the United States that they have unlimited quantities of bait of all kinds on their own coast, we find numbers of their largest schooners coming to this district each year, especially during the winter season, to procure a supply of bait. At this date, eight fishing schooners are swinging to their anchors off Eastport, willing to give any price for the desired amount of bait. I counted one day, last winter, fifteen schooners anchored there seeking bait. Many of them come to the Canadian side and purchase a license, then seek some of the fishing centres and buy the desired supply from our willing fishermen; while others, not willing to purchase a license, anchor off Eastport and send trading vessels to purchase and bring them the required amount.

ST. CROIX RIVER.

I cannot speak too highly of the admirable manner in which the salmon fisheries of the St. Croix River have been protected during the past year by the Warden on the United States side co-operating with the excellent Warden employed on the Canadian side by your Department. Where, in former years, a number of lawless characters of St. Stephen and Calais defied the officers of both Governments and slaughtered the passing salmon when and how they pleased; now all is changed. Two officers, widely known for their fearlessness, patrol the river each night when the salmon are running, and give these fisheries most excellent protection.

I regret very much to report that there are many fishermen in these waters who are deeply imbued with the feeling that the several provisions of the Fisheries Act were enacted for the guidance of fishermen of other portions of Canada, and that in this district, in their fishing operations, they should be allowed to follow their own will, and treat with contempt fishery officers and their instructions. This class, I am glad to say, is rapidly decreasing in numbers, and during the past year some of the provisions of the ignored "Act" have been brought to bear on them; and I trust that in the very near future, this troublesome class will imbibe other ideas, which will tend to make them good, law-abiding citizens, and give, when desired, assistance to the several fishery officers to aid them in enforcing the wise provisions of the Fisheries Act, thus preserving our fisheries and handing them down to the coming generation in as good, if not better, condition than they were received from our forefathers.

ENFORCEMENT OF THE FISHERIES ACT AND REGULATIONS.

It has been my painful duty at different periods during the year to summon before me and impose penalties, more or less severe, on a number of fishermen for violation of clauses of the Fisheries Act, and with very few exceptions the offenders acknowledged the wisdom of the "Act," and without any demur promptly paid their fines. The imposition of fines has in all cases put a stop to the abuses complained of.

In reference to the provisions of The Fisheries Act as they now stand, they seem to be adapted to the requirements of this district; and while some of them

might be altered and improved with undoubted benefit both to our fishermen and fisheries, still, I am of the opinion that if the laws at present in force were strictly carried out by the several officers, much real benefit would be done to our fishing grounds, and very little need of your Department for any new ones for some time to come. When they are tried and found deficient, it will then be high time to think of recommending your Department to adopt other regulations which might be more effectual.

The several close seasons have been very well observed, and it is a pleasure to notice how, year by year, the fishermen, instead of treating the fishery laws as something enacted for their injury, are slowly, but nevertheless surely, beginning to regard them as essential to the preservation of their unsurpassed fishing grounds.

FISH-WAYS.

With regard to the fish-ways of my district, they are all in good order, with very few exceptions. These, I believe, would be of more benefit to our fisheries if the few improvements suggested in my late report on the fishways were carried out. One mill-owner, in whose dam there is a fish-way, persisted for a time last season in closing the entrance, and all fish, alewives principally, in their return to the sea, were compelled to pass through the mill sluice, and were therefore ground up in the wheel. However, this case shall receive necessary attention during the coming season.

SALMON.

A slight increase is noticed in the catch of this delicious fish, due to increased numbers seeking the St. Croix River, especially during the latter part of the season. Good sport with the rod was had above St. Stephen by a number of sportsmen, and in Chamcook Lake; the take of land-locked salmon, also, afforded a large amount of pleasure to many foreign and local disciples of Isaac Walton. I placed 5,000 salmon fry in Lake Utopia this year, and trust the experiment will be attended with success.

MACKEREL.

The re-appearance of this fish in the Bay of Fundy, after such a lengthened absence, was a surprise to our fishermen, and no time was lost in their earnest endeavours to capture as many as possible. They were principally of the kind known as number three's, although some schools captured would be classed as number two's. A large number of schools were met with in all parts of the Bay of Fundy, and our fishermen were highly pleased with the hauls they managed to take. It is to be hoped that next season, this valuable fish will again seek these waters in as large, if not larger schools, and after the experience gained during the past summer, our fishemen will be able to give a better account of themselves.

HERRING.

A large decrease is noticed in this fishery, not, however, in the catch of small herring used for sardines, but among the large kind suitable for export fresh or to be used for smoking purposes. Different reasons, highly contradictory, however, are given by experienced fishermen, to account for the decrease of the schools and their lateness in striking our coast; but after a thorough enquiry among those in a position to understand the matter, I am of the opinion that it would be of great benefit to this fishery if a law were enacted compelling all nets to be taken out of the water each morning and not to be set again till sunset.

In view of the increasing scarcity of schools of large herring which in former seasons struck on the Pennfield shore and in Passamaquoddy Bay so plentifully, and at a much earlier date, it will be necessary for your Department, in the near future, to enact a measure prohibiting the taking of these fish for use as manure.

It does not altogether seem capable of belief that schools of young herring are destroyed at certain seasons of the year, for (in my opinion) very questionable pur-

poses ; that at other seasons the same variety of fish, when their value is greatly increased, can be expected to frequent our shores in as large schools as would be the case if their numbers had not been lessened at times of plenty to satisfy the greed of some reckless fishermen. But, I am surprised to find there are many who expect the schools of herring, no matter how they are harassed and broken up, and destroyed, to remain in the same numbers on our shores, and are greatly astonished during seasons of scarcity.

SARDINE HERRING.

During the past year the demand for small herring for sardine purposes has continued brisk, and remunerative prices prevailed ; but the weirs nearest Eastport being fortunate enough to make large catches monopolized the business, to the utter neglect of those situated at more distant points. A number of weirs are proving first-class investments for their owners, and are naturally objects of envy in the eyes of less fortunate weir-owners. During the past summer, a sardine factory began operations at Campo Bello, owned by Costigan & Co., of Montreal, and their product found a ready sale in Canada at paying figures. The firm are highly pleased with the quality and quantity of their pack, and, if suitable fish are procurable, will continue operations during the winter season.

HALIBUT.

Compared with 1889, double the weight of this fish has been taken, and the catch is confined solely to the fishing grounds of Grand Manan. These grounds, in the days of free fishing, were the favourite resort of numbers of United States vessels, who, by persistent fishing, almost cleared them of this much sought for fish. By the reports of reliable fishermen, halibut are returning to the waters of the Bay of Fundy, and with proper protection, it is hoped this fishery will return to its former vigour.

LOBSTERS.

While the lobster catch has not increased in quantity, it shows a highly gratifying increase in value, almost double that of 1889. This increase I attribute to the opening of new markets, and also to a more active demand in the United States, caused by a decreased catch on the fishing grounds of that country. This great increase in their value led many of our fishermen to be over-anxious in the placing of their traps in the water, without due regard to the close season—so much so that they set them before the open season began, although warned not to do it, by myself and the several officers. I accordingly was compelled to take up the traps, thirty-four in number, and to confiscate them, much to the pleasure of law-abiding fishermen, who were awaiting the close time to expire.

POLLOCK, COD AND HAKE.

The returns show the catch of these fish to be about the same as last year, and those engaged in their capture made a fair season's work. The prices held good during the season, and fishermen found no difficulty in disposing of their catch.

HADDOCK.

Over double the catch of 1889 is the welcome return for this fishery for the year. The prices given by dealers remained good during the season and the demand continued brisk.

TROUT.

As near as can be ascertained, the catch of trout remains about the same as last year, but it is extremely difficult to procure correct returns. Very little, if any,

illegal fishing is carried on, although reports which, in my opinion, are without foundation, are put in circulation at times regarding fishing through the ice and netting.

FROST FISH, SMELTS, FLOUNDERS, SQUID AND PICKEREL.

The catch of these fish shows in the aggregate quite an increase, but these fisheries are not prosecuted with any degree of vigour in this district, not being considered of much value.

OYSTERS.

Though the oyster is not a native of this district, it is thought by many well-informed persons, that the experiment of planting, if tried, would meet with success. Some were planted by a Montreal firm over a year ago at Bocabec and Digdeguash, but with what success has not yet been learned. The presence of starfish, which abound here, will, I am sure, prevent oysters from being cultivated with any degree of success.

I have to thank the several officers in my division for the cordial assistance rendered during the past year in my efforts to manage the valuable fisheries placed under my charge. While some of them, I must say, are inclined to interpret their instructions in a manner rather more lenient than is intended and the preservation of the fisheries demand, still, no matter what his feelings and inclinations are, it should be the duty of every fishery officer to enforce strictly and impartially all regulations, and I believe that if he shows he is endeavouring to do what is fair and just, even the fishermen will like and respect him for it.

I beg to append the salient points of the reports of local fishery officers and the fisheries statistic tables.

I have the honour to be, Sir,

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries, District No. 1, *New Brunswick.*

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

Overseer Lord, of West Isles, reports as follows:—This has been a prosperous season for the fishermen of this district, as almost all kinds of fish have been plentiful and prices very good. My returns will show that the sardine business was better this year than last, more fish being taken and better prices realized. Hake and cod have also been more plentiful. Why the returns do not show an increase in line fishing is because the great majority of the men are engaged weir fishing. Pollock were plentiful in the early part of the summer, and although lobsters were not taken in such quantities as in former years, still, owing to the increase in prices paid, the fishermen were enabled to make good wages. There has been quite a falling off in the quantity of herring smoked. This has not been on account of scarcity of herring, but on account of the limited market since the new tariff has been put in force by the United States, which, practically shuts us out from that market.

Overseer Todd, of St. Croix district, reports the run of salmon in the St. Croix River during the season and, especially the latter part of it, to be large. None were taken except with the rod. Poaching was entirely prevented by Guardian Glass, co-operating with the Warden on the American side of the river. The take of sardine herring in this district was very small. All were caught in the early part of the season, and were followed by immense quantities of squid, which ruined the fishing for the balance of the season.

The fish-ways, seven in number, are in good condition, but that at Baring should be lengthened. The fish-way at Broad's dam, on the Dennis stream, should be kept open until the 1st of October. Hitherto, to save water, the proprietor

closed this fish-way during late summer and early autumn, and the result has been that the young alewives going to the sea passed in large numbers through the penstock into the turbine wheel and been there destroyed all the water of the stream during times of drought being directed to the penstock.

Overseer Barry, of Magaguadavic, reports that the fish-ways at the lower falls on the Magaguadavic River are in good order, and have been during the past season, requiring only some temporary repairs. The freshet in the river was favourable for the fish-ways, not being unusually high, and therefore giving a fair head through the ladders at the different points. There are four ladders in the Gully, so called, placed at different points.

Alewives have been quite plentiful in the river near the mouth of the lower fish-way, and he thinks a considerable quantity ascended, judging from the indications above the dam in the main river. The loss of a short dam across the main river, just above the mouth of the lower fish-way at the head of tide water, which was carried away two years ago, will make quite a difference in the quantity ascending the ladders. When the old dam was standing, the fish could only go up the river as far as the mouth of the lower ladder, but now they can go up with the flood tide to the upper dam, about forty or fifty rods, and then return on the ebb tide to the basin below. Some of the ladders will require slight repairs in the spring, and about 20 feet should be added to the lower end of the lower fish-way.

Overseer Campbell, of St. Andrews, states that the fisheries in his district have fallen below the average. Very few net herring were taken in Passamaquoddy Bay last winter, and line fishing, always small, this year amounts to very little. Several resident fishermen have, of late years, left the district or gone into other business. The lobster catch was about the same as last year, with fewer traps used. The catch was poor, and without a few years' close season will, soon be ended. The size of lobsters taken remains about the same, fifty-five lobsters to the hundred pounds. Last spring, the traps had to be moved often, as after a few days no more fish could be caught in the place where they were set.

No trouble has arisen through the taking of undersized lobsters, as they were mostly sold to Eastport buyers and shipped away fresh in ice; small ones not being wanted. The run of herring suitable for sardines was large, but the catch small. The business was so poor in 1889 and 1890 that not more than half as many weirs were put in order as in 1888, and many of those were scarcely tended or seined. The demand of the Maine canneries was not so great as usual, and the supply of sardines from islands contiguous to Eastport was so great that but little sale was found for them here, and prices were so low that the owners would not seine their weirs. Of late, and at present, there has been more sale and better prices, running from $3 to $18 per hogshead, and a good many are being taken at present. There were times during the season when the bay swarmed with herring too small for sardines, from 2 to 4 inches in length. There has been few, or none, pressed for pumace and but very little attempt to use them on the land as manure. On the whole, there seems to be a supply of sardine herring in this district far exceeding the demand, which are not taken. The burning of the sardine factory here last winter, which was not re-built, was an injury to the town and the fishery of the district.

There was quite a run of mackerel in the bay this season, and the catch of those fish aided the weir-owners considerably. The fish were small, about number three's, and brought good prices in the market. The presence of the cruiser "Dream" keeps matters straight, and deters unruly fishermen from attempting to violate the fishery regulations, and this makes it easy for the local officers.

Land-locked salmon fishing was carried on in the Chamcook Lakes by numbers of fishermen, and the regulations were very well obeyed. The public are in favour of protecting this fishery, and notice of any violation is quickly given. Some very fine fish were taken with hook and line; but the catch was not large, as this fish is a dainty feeder and hard to take. The fishing season in these lakes should be extended to the 1st of April, or at least to the 15th, as the fish cease to bite as soon as the

waters become warm, and few, if any, are taken after the first of June. This fish affords fine sport, and, fished legitimately, the number will increase rather than diminish. The best fishing is from 15th April to 15th May. These lakes, four in number, are open to any one who chooses to fish, and are not controlled by any club or other body, and are not likely to be, as several roads open on them. The railroad runs on the shores of three of them, and the number of landowners is large, while the school and church lands extend over a good part of the largest lake.

Overseer Ash, of Beaver Habour, states that all kinds of fish were plentiful in his district during the past year, but not so many line fish have been taken, on account of fishermen being engaged in mackerel and herring fishing. Sardines were plentiful at the western end of this district, but prices were so low that it did not pay to fish weirs. There was a better catch of lobsters than last year, and they ran larger in size, which is attributed to the strict manner in which the law is enforced, prohibiting the taking of those under 9½ inches. On account of the increasing scarcity of the schools of large herring, which formerly played on the shores of this district, the fishermen here are fast gaining the opinion that the taking of small herring for sardine and fertilizing purposes will in the end ruin our large herring fishery, as each winter they are later striking the shores and are less in numbers. The several close seasons are now strictly observed by our fishermen, thanks to the Fisheries Dspartment for placing the cruiser "Dream" in these waters, and thus compelling a number of would-be violators of the law to make themselves familiar with the provisions of the Fisheries Act, and abide by them. Where formerly a great amount of trouble was caused by owners of weirs neglecting to apply for leases at the proper time; under the regulations enforced now by the Inspector for this district, little or no trouble is caused.

Overseer McLaughlin, of Grand Manan, reports that in his district during the past season the fisheries have been fairly remunerative, and that fishermen are very well provided for the winter which is now upon them. They have strong hopes that the herring which have forsaken the shores unusually early during the past two seasons will return and give them some thing to work at during the present winter. There has been a falling off in the catch of hake and large net herring and a slight decrease in the take of small herring for smoking, but a healthy increase is felt in the catch of cod, pollock, haddock, halibut and mackerel. The North Head has been most affected by the decrease in the catch of hake and large herring, but the fishermen have been diligent and made some good hauls. The herring weirs, from Cheynis and Cow passages, to Long Island, were almost a failure compared to former years, and the herring ran small, or of the sardine size. The weirs to the southward of the passages and on the western side of Grand Manan fished well, and caught large numbers of good smoking herring, but they ran rather smaller than last year's catch. Had sardine fish been scarce in other places, weir fishing would have been a success; but as they were very numerous in the waters along the mainland, they were not of much value here. The fishermen of White Head Island seem to have been the most favoured of any in this district, and the line fish were very abundant on the fishing grounds, and have been taken in large quantities. In the ninety smoke-houses, at least half a million boxes of smoked herring have been put up, and at the close of the season they have taken in their weirs two hundred barrels of fine mackerel, and yet these people have displayed more discontent than the inhabitants of any other part of this district. The catch of lobsters has been less than in any year since that branch of fishing has begun, and they only fished in all about sixty days. As the taking of small or illegal lobsters met with a severe check from the Inspector in the steamer "Dream," the fishermen took up their traps and quit fishing rather earlier than in former years. The fishery regulations have been well observed throughout the year, and the only abuse to which attention is called is the habit fishermen have of leaving their nets in the water for days and weeks at a time. Up to thirty years ago, this practice was unheard of in this district; fishermen put their nets in the water in the evening

and took them up in the morning. Such a thing as day-light net fishing, with nets set to moorings, was not thought of; and it is only since fresh herring have been in such large demand that this practice has been general.

This, and the practice of throwing gibs or offal on the fishing grounds has at last resulted in compelling herring to seek other grounds in the Bay of Fundy. When the close time expires at Southern Head, Grand Manan, the waters are generally swarming with large net herring. A fleet of vessels muster on the grounds and set out a great number of gill-nets. These nets are left in the water for days at a time, with more or less dead or dying herring in them, till the fish are scared to other resorts, and they are followed by these portable fisheries until they are driven to the open ocean. Then, the net fishermen will proclaim through the newspapers that the weirs have destroyed all the herring. About the 1st November, I overhauled about forty gangs of nets set for daylight fishing, and I am satisfied there were herring and mackerel in these nets that had been dead for four days at least. This, in a short time, had the effect of driving or scaring the herring from the grounds, and they have not returned to any part of Grand Manan, except to Dark Harbour.

Last year it was the same,—the herring went to the south-east of Big Duck Island and remained there till late in February, when the heavy easterly gales drove them for refuge to North Head and the north shores of the bay. These are facts, and any one who doubts the cause herein stated can refer to the report of the two delegates sent to Europe to investigate the herring fishery there. It is therefore suggested that the close time at Southern Head be from 15th of July to the 15th of December of each year, and that fishermen be compelled to take their nets out of the water every morning and not set them until evening.

Overseer Brown, of Campo Bello, reports a large increase in the catch of nearly all kinds of fish, large herring and pollock excepted. Hake and haddock were better than for a number of years, and the catch of lobsters, sardines and mackerel was above the average. Line fishermen made a good year's work. Most of the weirs had large catches of small herring suitable for sardine purposes, but very few large enough for smoking. The winter herring fishery was small. The fish did not come into the bay until the 15th of February, bringing then a good price, so that the fishermen fared better than they did last year. Lobsters were very scarce during the season, but on account of the extension of time they were allowed to be taken, as well as the good prices obtained, fishermen did very well. Were it not for the scarcity of bait there would have been a larger quantity of cod and pollock taken. Very few squid were caught. As small herring and squid are most suitable bait for line fishing, and some of the weir owners would not sell small herring to the fishermen when they could sell to American sardine buyers, the consequence was that our fishermen lost a good deal of time and many catches of fish. Owing to the grounds being thoroughly protected and fishermen not being crowded out by foreigners, trawl fishing was better than usual, and, upon the whole, fishermen made a good year's work. The several close seasons were very well observed.

J. H. SPRATT,
Inspector of Fisheries, District No. 1, N.B.

DISTRICT No. 2.

REPORT ON THE FISHERIES OF DISTRICT No. 2, COMPRISING THE COUNTIES OF RESTIGOUCHE, GLOUCESTER, NORTHUMBERLAND, KENT AND WESTMORLAND, FOR THE YEAR 1890, BY INSPECTOR R. A. CHAPMAN.

MONCTON, 31st December 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report on the fisheries of district No. 2, comprising the Counties of Restigouche, Gloucester, Northumberland, Kent and Westmorland, in the Province of New Brunswick, for the year 1890, with extracts from the reports of local fishery officers. While there is an actual increase in the aggregate of values of upwards of $150,000, the returns, for reasons explained elswhere, show a trifling falling off in the catch: prices for all kinds of fish, with the one exception of smelts, having ruled very high, made it on the whole a profitable year for our fishermen, with a disposition on their part generally to observe the regulations and assist the Department and their officers in taking such steps as may be necessary to permamently increase this great sea harvest. It has been my aim, at all times, to impress upon the minds of fishermen and others interested that their object and the Departments should be identical, and that all should work in accord for the one great end—the preservation of our fishing industries. Owing to the very high freshets this year in what are usually the dry summer months, we have been unable to make much progress in fish-ways but, hope another season to open up two or three fine rivers to the different kinds of fish that formerly frequented them.

SHAD.

There is a very small catch this year in the rivers and estuaries at the head of the Bay of Fundy where they used to be so plentiful. There is only one way that will restore these fish and that is, not to allow any to be caught anywhere in this Province until the 1st July. I have watched the shad coming into this, the Moncton market from St. John, from the 10th May to the middle of June, and every female shad opened is full of spawn. It certainly seems a great mistake to thus exterminate what was once so valuable an industry, when the cause is so apparent and the remedy so plain.

SALMON.

The returns show a large increase in the catch on the Miramichi River and estuary, as well as in some sheltered portions of the coast; but the weather was so stormy during the season, that nets were destroyed and fishing almost abandoned in many places. Notwithstanding this, there is an increase in the aggregate over last year, and the officers and guardians everywhere report a fine run of salmon going up to the spawning grounds this fall.

BASS.

Fishing for these fish being prohibited on the Miramichi, little can be said until the effect of this is known; but officers and others best able to judge speak very hopefully.

HERRING.

There was the usual abundance of spring herring, and little attention seems to be given of late years to the fall fishing of this important article of home consumption.

SMELTS.

The catch of 1890 of this little fish was nearly up to that of 1889, but they were exceedingly small, and everyone was predicting that they were running out, but strange to say they have struck in this fall in large numbers and of good size, very much larger than for the past two years.

COD.

A falling off from last year's good catch is reported of this very valuable fish, not it appears, however, from their scarcity, but rather from rough weather and want of bait.

MACKEREL.

There is, as usual, a small catch of this fish, and there appears to be little effort made on our coats to increase it.

TROUT.

Rather more trout are reported caught than last year, but as most of these fish are taken by anglers acting under leases from the provincial authorities, reports of catch are not very reliable.

LOBSTERS.

There has been a marked improvement in this fishery in 1890 over 1889 amounting to over half a million pounds, and which would have been a million or more had it not been for the very stormy weather, which in some exposed districts prevented fishermen getting at their traps more than half the time. The lobsters were also of larger size than for some years past, which goes to show that the shorter time for taking them and the longer close season is beginning to show results which make large packers especially opposed to any extension whatever of the time for fishing.

OYSTERS.

There appears to be little diminution of oysters in the beds of Northumberland and Gloucester counties, but with the continually decreasing quantities taken in Kent and Westmorland there is great danger of over-fishing.

R. A. CHAPMAN,
Inspector of Fisheries.

SYNOPSES OF FISHERY OVERSEERS REPORTS.

RESTIGOUCHE COUNTY.

Overseer J. A. Verge, of the River Division, reports that salmon fishing in the estuary of the river did not come up to last year's catch. This shortage is attributable to strong gales from the east during the first run of fish, the nets being torn, and could not for several days be mended. It is evident from the large number of salmon reaching the fluvial portion of the River to the fly fishing grounds that there is no decrease in fish coming to their summer haunts. The failure is not due to any over fishing, there being no increase of stands for the last eight years, and from reliable information from the chief guardian of the R. S. Club, Matapedia, the spawning beds on the main River Restigouche and on the Tomkedgwick never contained more salmon than during this season. The Sunday close time is well observed, so is the close season.

Overseer A. McPherson writes: In the salmon fishery, which is our staple fishing industry I have again to report a falling off in my district, not however, from any scarcity of fish, but owing to heavy freshets and prevalence of stormy weather

especially of easterly gales which caused the fish to keep off shore. On the other hand, the causes which led to the partial failure of the salmon fishing acted favourably in the interests of the lobster fishing, which was greatly benefited by the continued easterly winds, which drove the lobsters up the bay, so that those engaged in this business made a profitable season, both in largely increased catch and high prices obtained.

GLOUCESTER COUNTY.

Overseer F. Comeau reports a rather smaller salmon catch, owing to unfavourable weather and an increased take of lobsters, which he believes is due to the careful observance of the regulations; herrings very abundant, large increase in cod, due to the more vigorous prosecution of this fishery.

Overseer G. Cormier reports a smaller take of herring and codfish in his district, which he attributes to bad weather and not to scarcity of fish.

Overseer J. L. Hache also reports a falling off from last year's catch, especially in cod, which he says is owing to rough weather and scarcity of bait. He complains that oysters are very recklessly fished; small and large being taken indiscriminately, and then the small ones thrown away, in place of being put back into the water while alive. He believes some regulations should be made for their preservation, and recommends a limit as to size.

Overseer A. Ache states that codfishing shows a decrease from last year, caused by stormy weather and want of bait. Other fisheries (except mackerel, which was better) have been about the same as in 1889.

Overseer A. Boyd reports a large increase in fishing, with corresponding results, and that the regulations with reference to size of lobsters, &c., were observed.

Overseer W. Walsh reports a much larger catch of fish than last year, which he says were of excellent size and quality, and indications are that many more will be engaged in fishing next year. The regulations have generally been well observed, and he urges strongly that the close time for alewives begin 20th June, as after that date they are nearly worthless, and trout begin to come in and are caught in the nets.

Overseer O. Robichaud says, in general, the fishing has been good. The catch of smelts was better than last year, but smaller in size. Herring were very plentiful, and great quantities were caught. There is an increase in the take of alewives and lobsters, but a slight decrease in salmon, owing to stormy weather. Cod and hake about the same as last year, and mackerel much more plentiful, but hard to catch by hook and line. The several close seasons have been well observed, and fishermen generally are satisfied with the regulations.

NORTHUMBERLAND COUNTY.

Overseer P. Robichaud reports herring and salmon fishing good, except in exposed situations, where rough weather interfered with the salmon fishing. Smelt good, but a great quantity of small ones. Lobster take fair; would have been much better but for stormy weather. Regulations generally well observed.

Overseer J. G. Williston writes that salmon fishing was good, much better than in 1889; fish came in early, and many more would have been taken only for the gales when they were thickest. Salmon were also very plentiful in Bay du Vin and Black Rivers this fall spawning. Owing to rough weather, lobster fishermen could not overhaul their traps more than half the time, and still made a fair pack, the size being much larger than last year. Oyster fishing has been followed up for all it is worth. New-beds are forming and oysters are now raked where no one ever knew of one being found before. The close season should be from 1st May to 1st October, as those caught in September, being so far from market, often become worthless and are dumped. Smelts were plentiful, but very small in size. The close seasons have been well observed, and fisheries, are in a healthy condition. The present system so far is working well.

Overseer Wm. Wyse reports a large increase in the salmon catch, especially in the early part of the season, and believes it would have been much larger only for the débris carried off the ballast wharves and out into the river by every high tide, to which the harbour master pays no attention whatever, notwithstanding the damage to the navigation of the river and to the fact that salmon will at once leave when their natural waters are polluted. Smelts very small in size. The present regulations for the protection of bass will resuscitate this fishery to its once prolific state. The guardianship and patrol of the river has had a very beneficial effect on the much better protection of all the fisheries.

Overseer T. Parker reports a fair catch of salmon, especially in the early part of the season, and a great run to the spawning grounds this fall.

KENT COUNTY.

Overseer L. Guimond reports that herrings struck in about the 5th May and were very plentiful. There is a large falling off in salmon, owing to rough weather; the storms having destroyed the nets. There is also a decrease in codfish caught, for the like cause and want of bait. Less oysters were raked than last year, and winter fishing is destroying the beds and young oysters. Recommends the prohibition of winter fishing. Lobsters struck in about the 13th May. There is an increase in this fishery, both in size and numbers, having not been so large and plentiful for ten years past. The regulations were generally well observed.

Overseer M. A. Girouard reports fishing generally better than last year. Lobsters better in quantity and size; smelts smaller in size, and somewhat less taken.

Overseer Chas. Cormier says the spring herring were in abundance, the fishermen catching all they could take care of. The take of mackerel was small. The catch of lobsters was very large, and the fish were of a somewhat larger size than last year. All the packers report herring done well. There was a falling off in smelts, and they were of much smaller size than in past years. The close seasons were generally well observed.

WESTMORLAND COUNTY.

Overseer W. B. Deacon writes: In my district thirty-five factories were operated this year, being twenty more than last year, and I am informed ten or twelve more are being built for next year. The catch was fair, considering the great number of stormy days when they could not fish, being 222,672 lbs. more than last year, and 411,456 more than in 1888. Smelts were a good yield, being 283,950 lbs. more than last year.

Overseer R. Goodwin reports a small falling off taken as a whole, compared with last year. Spring herring were abundant and a large quantity taken. Alewives were caught in increased quantities in all the rivers. Shad fishing in Sackville was fair for a few days in the first part of the season. Those interested complain that the taking of parent fish in St. John harbour, before spawning, is utterly destroying this once valuable fishery. There are no abuses to complain of in this district; the several close times are well observed.

Overseer D. T. Cormier reports a very small catch of shad this year, and urges a close time up to the 25th June, to give the fish a chance to deposit their spawn, or otherwise this fishery will become extinct.

I have the honour to be, Sir,
Your obedient servant,
R. A. CHAPMAN,
Inspector of Fisheries for District No. 2.

DISTRICT No. 3.

REPORT ON THE FISHERIES OF DISTRICT No. 3, COMPRISING THE COUNTIES OF VICTORIA, CARLETON, YORK, SUNBURY, QUEEN'S, KING'S, ST. JOHN AND ALBERT, FOR THE YEAR 1890, BY INSECTOR DAVID MORROW.

OROMOCTO, 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my second annual report of the fisheries of District No. 3, New Brunswick, for the year 1890, with condensed reports from local fishery officers, and statements of product and values. The several close seasons, as a rule, were well observed. Still, there are fishermen, I regret to say, who can only be kept in line by the sharp lash of the law. In this district are a number of rapid streams and rivers, clear of sawdust and of foreign matter, most favourable for the production of fish, any of which would be an excellent location for the reception of salmon fry.

SALMON.

The returns show a small catch of salmon; the decrease is very considerable. The falling off has been confined to net fishing alone. The angling catch is reported good. The rains and high water enabled the fish to get up the rivers early in the season, and although the take has been small, it is reported that there were more salmon on the spawning grounds this fall than usual. This is no doubt due to prohibiting the capture of the fish in non-tidal waters. I would respectfully ask that more protection be given this fish on the way to, and on, the spawning grounds.

BASS.

The number of this fish somewhat increased, in consequence of more attention being given to the fishery; but the supply is diminishing. The great bulk of the catch is from Belle Isle Bay, King's Co., and as few were taken at any other place, danger of exhaustion exists.

SHAD.

There is an immense increase over the catch of last year. The bay fishery above St. John has again fallen off; the returns for Albert County showing but 10 barrels. In St. John River, an increase has been going on for some time. Previous to 1880, the catch was about 500 barrels per year; since which time there has been a regular and very considerable increase. The bay fishery for 1879 amounted to over 14,000 barrels; since then it has fallen off rapidly, until last year the harbour and river fisheries of St. John produced considerable more than one-half of all the shad taken in Nova Scotia and New Brunswick. The bay fisheries have all fallen off alike, and it is a question whether this falling off of the bay fisheries had not something to do with the increase in the St. John. I think it has. The fish return to sea after spawning, instead of going to the head of the bay, as formerly; and for some reason seek other feeding grounds and escape the fall fishermen. The additional close time from Friday evening was a much needed protection, and should be strictly enforced.

ALEWIVES.

The catch exceeds that of last year by over 5,000 barrels. The fish were more numerous in the river than they have been for some years.

PICKEREL AND PERCH.

The catch shows a small falling off. This fishery was not prosecuted as vigorously as formerly, owing to the high rate of wages along the river. The supply is abundant. Nets used in the gaspereaux fishery up to the 30th June are then set, it is claimed, for pickerel.

TROUT.

It is difficult to ascertain the catch of this fish; it can only be approximated. Trout are plentiful in most of our lakes and streams, fishing being confined to angling; and with prohibition of fishing through the ice, an increase may be expected.

COD, POLLOCK, HAKE AND HADDOCK.

The returns again show a small increase over the catch of last year.

HERRING.

The catch is less than that of last year. Winter and spring fishing were a failure. The fall fishing proved better and the fish sold at remunerative prices.

LOBSTERS.

The returns show an increase over last year's catch. The fishing season commenced early. This fishery is considerably exhausted. A larger quantity was taken in 1887 than for three years past. The care with which fishermen in this district are conducting this branch of the fisheries, by allowing all undersized lobsters to escape, was shown by an improvement in size of what was taken this season. About one-half the product of this fishery is used for home consumption, and the balance shipped fresh to the United States; none are canned here. The fishermen are of the opinion that no lobsters under 9½ inches should be taken at any time.

DAVID MORROW,
Inspector of Fisheries for District No. 3.

SYNOPSES OF OVERSEERS' REPORTS.

ALBERT COUNTY.

Overseer Stewart says, that the catch was small, owing in a great extent to the fishermen not prosecuting the fisheries so actively as formerly. Salmon were plentiful in both the bay and streams. Trout were unusually plentiful this season. The fish-way on Upper Salmon river was kept open, and plenty of salmon and trout passed through. In this overseer's opinion, until mill-owners are stopped from putting their refuse in the water, the fish in the Bay of Fundy will not increase to their former numbers. Close seasons well observed.

CARLETON COUNTY.

Overseer Burtt reports that owing to the prohibition of netting, very few salmon were taken in his division. In the spring of 1889, ten thousand salmon fry were put into the south branch of the Beckaguimic River, many of which were seen last summer. This stream is a good one for salmon, and with proper protection from sawdust and illegal fishing would, in a short time be well stocked with fish. Salmon have been taken with the fly at the month of this stream during the past season. Salmon and trout are the principal fish in this division. Too much care cannot be taken to prevent their destruction.

YORK COUNTY.

Overseer Orr reports a small catch of salmon on the Saint John River. This he attributes, in a measure, to the late spring freshet during which the fish went up river.

The catch of shad was larger than that of last year; the fish were abundant and of good quality. On the South-West Miramichi, the run of salmon was equal to that of former years. Illegal fishing was not carried on to any extent.

Warden Glendenning reports a decrease in the catch, owing to less active prosecution of the fisheries.

Warden Cronkhite reports that there was very little illegal fishing done during the season. In his visits through his district, he noticed accumulations of sawdust and other refuse several feet deep in some places. The eddies in the St. John River are fast filling up with sawdust, shavings and shingle waste. He suggests that a fish-way be built in the milldam across Eel River, so that salmon may go up as formerly.

SUNBURY COUNTY.

Overseer Hoben says it is a remarkable fact that after the county has been settled over one hundred years, the gaspereaux fishery should exceed any year he can remember. The oldest fishermen report that in many places they never saw the fish so plentiful. Shad fishing in some districts was also very good. The salmon fishery was not so good. Fishermen attribute this to the summer freshet. Other fish were a fair average. Fishermen are very unanimous in saying they think it hard that they should be deprived of fishing Friday night, when in the harbour of St. John they are allowed to fish until Saturday night. This is the cause of trouble. They consider all should be treated alike. He recommends that the regulation be the same in St. John Harbour as it is up the River St. John and tributaries. The close season was well observed. In some places there is a disposition to crowd narrow channels with nets. Fishery officers should see to this. Fishermen seem quite willing to conform to the law, when made acquainted with it and its operations.

QUEEN'S COUNTY.

Warden Phillips reports a good run of salmon in Canaan River. They were a long, slim fish, different from the fry put in the river some years ago. Since sawdust has been stopped on the river, fish are on the increase. He recommends that a quantity of salmon fry be put in the river next spring, at any place above Flat Rock.

KING'S COUNTY.

Overseer Gosline reports that heavy rains and high water were favourable for the run of fish, especially salmon, and a greater number reached the spawning grounds than during the past three years. Alewives and shad were plentiful in the upper tidal waters of the Kenebeccasis. The yield was at least ten thousand shad. A market is found for these along the line of railway from St. John to Moncton. As the fish increased in the stream there were more attempts to bar the whole channel with nets. Spearing salmon is not so much practised as formerly. Mill rubbish and sawdust are still the grievance of farmers and the great hindrance to an increase of any kind of fish in the rivers of this part of Kings County. He suggests prohibiting fishing for alewives and shad in Darling's Lake, a favourite spawning ground for these fish. They are taken both at the inlet and outlet of the lake in considerable numbers, before they have a chance to spawn.

ST. JOHN COUNTY.

Overseer O'Brien reports an increase in the catch of gaspereaux, and better prices than last year. Spring shad show an improvement over last year. What was shipped fresh to the States sold at remunerative prices. Freshets may have had something to do with this increase. The catch of salmon shows a great falling off, evidently caused by over-fishing in the bay. There were seventy-one boats fishing there this season. Winter herring fishing was a great failure, very few, if any, of the vessels paying expenses. There was only half a catch of fall herrings. Prices were better than last season, which helped the fishermen considerably.

Lobsters show some improvement over last year. This was caused by earlier fishing, and a larger number of men being engaged in the fishery. Other kinds of fish are about the same as last year, except eels, which show an increase. Attention is called to the inspection of pickled fish. One half the alewives inspected had to be re-inspected. The inspection of herring in St. John is an imposition on fishermen, both in the price and the way it is done. It costs 7 cents to inspect 100 lbs. The inspector breaks one to three hoops, for which he charges 3 cents apiece to replace; this brings the inspection to 10 or 16 cents per half barrel. Herrings brought in the hold of a vessel, in bulk, packed in the slip, and pickled with slip water, get the same brand as fish put up properly.

Overseer Rourke, of St. Martin's district, reports the catch small, the fishery not being prosecuted as in former years. There were but very few herrings on this shore at any time during the past season. No infringements of the regulations were reported.

I have the honour to be, Sir,
Your obedient servant,
DAVID MORROW,
Inspector of Fisheries, District No. 3, New Brunswick.

NEW BRUNSWICK—District No. 1.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in **District No. 1,** of the Province of **New Brunswick**, for the Year 1890.

DISTRICT, No. 1.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.							
	Vessels.				Boats.			Nets.		Weirs.		Lobster Traps.									
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herrings, frozen, per 100.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.
Charlotte Co.			$			$			$		$		$								
West Isles	10	189	4600	44	265	17900	264	11800	5900	79	39500	1800	900	..	....	500	110000	20000	....	700	....
Ste. Croix	....	....	....	....	....	....	....	.....	.....	9	1800	....	.....	350	40	....	.....	.....	90	....	....
Magaguadavic	....	....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	....	....	....	.....	.....	50	....	....
Passamaquoddy	1	11	600	3	60	1800	70	300	150	38	17100	900	900	....	1092	.....	1000000	300	...	150	....
Beaver Harbour	21	250	10500	100	110	2750	270	20000	24000	67	6700	4000	4000	..	200	2400	5000000	18000	....	700	....
Grand Manan	14	266	5000	53	450	40000	716	20000	10000	32	32000	6000	6000	..	300	5000	3500000	1250000	....	16000	12
Campo Bello	26	550	10750	111	125	5300	156	7411	4694	25	1980	1966	983	....	45	3370	3970000	15686	....	1436	....
Totals	72	1266	31450	311	1010	67750	1476	59511	44744	250	99080	14666	12783	350	1677	11270	13580000	1304186	140	18986	12

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Materials, &c., District No. 1, of the Province of **New Brunswick**—*Continued.*

DISTRICT.	KINDS OF FISH.													FISH PRODUCTS.				VALUE.
	Pollock, cwt.	Hake, cwt.	Hake, Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Frost Fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Pickerel, lbs.	Sardines, hhds.	Lobsters, tons.	Fish Oil, galls.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
Charlotte Co.																		$ cts.
West Isles	5000	2500	3000	300								10406	55	14000	20	500	200	106,940 00
Ste. Croix						3200	800	15		4000	1500	53						2,705 00
Magaguadavic						4000	500			4000								1,475 00
Passamaquoddy	200	100		150		5000			2000			1680	65				1000	40,705 00
Beaver Harbour	1600	4000	4000	1000			1000		1000			3500	200	2000	80	12000	100	130,850 00
Grand Manan	10000	8000	8000	3000	100000		2000		2300			2000	250	50000		2000	5000	575,070 00
Campo Bello	1639	7011	9262	5441				32				1131	87	6724		1676	176	129,561 10
Totals	18439	21611	24262	9891	100000	12200	4300	47	23500	8000	1500	18770	657	72724	100	16176	6476	987,306 10
Clams and fish for local consumption																		75,450 00
																		1,062,756 10

RECAPITULATION of the Yield and Value of the Fisheries of **District No. 1**, of the Province of **New Brunswick**, for the Year 1890.

Kinds of Fish.	Quantities.	Prices.	Value.
		$ cts.	$ cts.
Salmon, fresh, in ice ..... Lbs.	350	0 30	105 00
Mackerel ..... Brls.	1,677	15 00	25,155 00
Herring ..... Brls.	11,270	4 00	45,080 00
do frozen ..... per 100	13,580,000	0 60	81,480 00
do smoked ..... Boxes.	1,304,186	0 25	326,046 50
Alewives ..... Brls.	140	4 50	630 00
Cod ..... Cwt.	18,986	4 00	75,944 00
Cod Tongues and Sounds ..... Brls.	12	10 00	120 00
Pollock ..... Cwt.	18,439	4 00	73,756 00
Hake ..... Cwt.	21,611	4 00	86,444 00
do Sounds ..... Lbs.	24,262	1 00	24,262 00
Haddock ..... Cwt.	9,891	4 00	39,564 00
Halibut ..... Lbs.	100,000	0 10	10,000 00
Trout ..... Lbs.	12,200	0 20	2,440 00
Frost-fish ..... Lbs.	4,300	0 10	430 00
Squid ..... Brls.	47	4 00	188 00
Flounders ..... Lbs.	23,500	0 10	2,350 00
Smelt ..... Lbs.	8,000	0 10	800 00
Pickerel ..... Lbs.	1,500	0 10	150 00
Sardines ..... Hogsheads.	18,770	5 00	93,850 00
do in cans ..... Cases.	400	4 50	1,800 00
Lobsters ..... Tons.	657	60 00	39,420 00
Fish Oil ..... Galls.	72,724	0 40	29,089 60
do Guano ..... Tons.	100	25 00	2,500 00
do used as bait ..... Brls.	16,176	1 50	24,264 00
do do manure ..... "	6,476	0 50	3,238 00
do consumed in each district (not in above returns) ..... Cwt.	16,000	4 00	64,000 00
Clams in cans ..... Cases.	400	5 00	2,000 00
do ..... Brls.	850	9 00	7,650 00
Total, 1890			1,062,756 10
do 1889			1,373,589 26
Decrease			310,833 16

NUMBER and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of **District No. 1**, Province of **New Brunswick**, during the Year 1890.

Material.	Value.	Total.
	$ cts.	$ cts.
72 vessels, 1,265 tons	31,450 00	
1,010 boats	67,750 00	
59,511 fathoms of nets	44,744 00	
250 weirs	99,080 00	
14,776 lobster traps	12,783 00	
		255,807 00
2 sardine factories	6,500 00	
1 fertilizer factory	40,000 00	
3 ice houses	750 00	
587 smoke and fish houses with fixtures	184,045 00	
83 oil presses with fixtures	6,174 00	
605 trawls	16,100 00	
		253,569 00
Total value		509,376 00

NEW BRUNSWICK—District No. 2.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in **District No. 2,** of the Province of **New Brunswick,** for the Year 1890.

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							KINDS OF FISH.										
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.												
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.
Ristigouche Co.			$			$			$		$		$		$											
Dalhousie to head of tide					35	350	35	8040	8040								46144									
Dalhousie to Belledune					90	900	160	15200	7500			4	80	3300	1650		93000		5280			100				
Totals					125	1250	195	23240	15540			4	80	3300	1650		139144		5280			100				
Gloucester Co.																										
Petit Rocher					400	6000	900	12000	9600					5000	5000		58000			12	13000	6000			2000	
Madisco					90	1500	150	4990	4990					5000	5000		60000			60		100		150	900	
Bathurst					30	600	60	6053	6053								100000			40		700			200	
New Bandon					100	2000	200	4722	4000					4000	4000		200000			100		1800			4000	
Grand Anse	2	64	1000	10	230	4000	550	6000	1600	2	5200			7000	7000		46000			400		2000			3000	
Upper Caraquet	4	63	1500	12	100	10000	300	4500	4500											120		1250			2500	
Caraquet	6	71	2000	18	140	3800	426	6000	3400			27	540	1200	1200					50		2500			22600	
Shippegan	26	335	15600	89	244	2240	540	14000	9000			52	1560	11300	11300		10730			193	14400	1540			11350	
Miscou	1	15	500	4	90	4600	238	2500	2000			30	1050	7000	7000					300	2400	2000			7000	
Pokemouche	1	12	700	3	180	5400	300	15000	9000			80	2400				10000			400		3700		450	1800	5
Tracadie	1	14	400	4	23	2000	56	3500	520			118	950	1900	1900		6700			1	10560	3420		230	420	2
Totals	41	574	21700	140	1627	42140	3720	79265	54663	2	5200	307	6500	42400	42400		491430			1678	40360	25010		830	55770	7

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—*Continued.*

DISTRICT.	KINDS OF FISH—*Concluded.*																FISH PRODUCTS.				VALUE.
	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Perch, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, tons.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
Restigouche Co.																					$ cts.
Dalhousie to head of tide																					9,228 80
Dalhousie to Belledune							1000				7000				3	82800			400	200	31,038 00
Totals							1000				7000				3	82800			400	200	40,266 80
Gloucester Co.																					
Petit Rocher											5000		15			62300			1500	5500	58,366 00
Madisco																100000			900		30,925 00
Bathurst							3000				300000										42,500 00
New Bandon																80500				600	74,660 00
Grand Anse																150000	1500		3500	1000	59,550 00
Upper Caraquet	450	20	150						2								400		120	400	19,768 00
Caraquet	500	600	100	800			500		20		15000		8	3000	16	33600	13000		2500	1500	128,552 00
Shippegan	850	1800	1000								52700					115200	6550		3430	5000	94,810 00
Miscou	250		75								27000					139200	480		1900	1000	63,954 00
Pokemouche	100		50	100	10	500	2000	500			30000		80		5		350		1600	1000	38,825 00
Tracadie	250	160	45				840	1200			94400		25			33600	120		1500	40	32,773 20
Totals	2400	2580	1420	900	10	500	6340	1700	22		524100		128	3000	21	714400	22400		16950	16040	644,683 20

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—*Continued.*

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								KINDS OF FISH.											
	Nets.				Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.		Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.												
			$			$			$		$		$		$												
Northumberland Co.																											
Neguac, Tabusintac, &c.	1	13	150	2	105	2250	125	11588	3600	.....		127	3800	1000	1000	..	79704	...	...	50	.....	3000	...	200	500	...	
Bay du Vin, &c	4	90	1550	9	150	4600	280	16000	16000	.....		220	3600	6000	6000	..	123160	....	1000	70	1800	400	200	50	500	...	
Chatham	8	400	12000	50	110	2200	110	8560	8560	.....		337	11110	...	...	..	88000	200	....	150	.....	.....	...	500	.....	...	
North-West Miramichi.	.....	.....	.....	.....	.....	.....	.....	1300	1625	.....		.....	.....	.....	.....	.....	21790	.....	.....	.....	.....	.....	.....	762	.....	...	
South-West do	.....	.....	.....	.....	.....	.....	.....	2580	1774	50	4000	...	.....	.....	.....	60	48890	2200	...	.....	.....	.....	....	1012	..	....	
Totals	13	503	13700	61	365	9050	515	40028	31559	50	4000	684	18510	7000	7000	60	361544	2400	1000	270	1800	3400	200	2524	1000	....	
Kent Co.																											
St. Louis	.....	.....	.....	.....	190	7000	530	10500	7100	.....		110	4000	11000	11000	..	13000	.....	.....	50	.....	4000	....	230	175	...	
Richibucto	5	80	2200	18	172	6880	436	9480	5069	.....		161	6440	7400	7400	..	6029	.....	.....	39	.....	5320	....	1239	480	19	
Buctouche	.....	.....	.....	.....	125	1696	240	13604	5440	.....		218	7450	3098	3098	..	.....	.....	.....	58	1920	3880	....	1100	25	....	
Cocagne	.....	.....	.....	.....	300	6000	600	18000	9000	.....		63	1260	5666	5666	..	.....	.....	.....	30	.....	3000	...	100	20	...	
Canaan River	.....	.....	.....	.....	4	45	12	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Totals	5	80	2200	18	791	21611	1818	51584	26609	.....		552	19150	27164	27164	..	19019	...	...	177	1920	16200	....	2669	700	19	

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—*Continued.*

DISTRICT.	KINDS OF FISH—*Concluded.*																FISH PRODUCTS.				VALUE.
	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Perch, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, tons.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
Northumberland Co.																					
Neguac, Tabusintac, &c.	100						1000				495768		100			23720	500		500	1000	67,133 28
Bay du Vin, &c.	300			2000	100			40000		20000	587305		20	11000		86400	50	110	1500	500	119,999 30
Chatham							300	150000		10000	677000		3	500					40	8000	75,380 00
North-West Miramichi					6		2000						20								8,247 00
South-West do							1100														15,842 00
Totals	400			2000	106		4400	190000		30000	1760073		143	11500		110120	550	110	2040	9500	286,601 58
Kent Co.																					
St. Louis	700	600			7					2500	23900	9000	126	200		250000	250	125	3000		66,094 00
Richibucto	2700	39			10	2400	1800	6800		9000	318400	2700	214	265		237424	290		900		95,268 18
Buctouche	112	110	4			300	500	2872		12000	456769		30	1120	7½	73440	67		1065	124	65,417 52
Cocagne	80		100			300	260	6000			110500		50	575		214368	150		2800		52,823 16
Canaan River							10000														1,000 00
Totals	3592	749	104		17	3000	12560	15672		23500	909569	11700	420	2160	7½	775232	757	125	7765	124	280,602 86

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—*Continued.*

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							KINDS OF FISH.											
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.													
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.
			$			$			$		$		$		$												
Westmoreland Co.																										
Shediac and Botsford	..	..	..	..	600	9000	1000	10000	8000	..	..	150	3000	20000	12000	..	400	..	..	70	1440	10000	2000	..	20	..
West Sackville	..	..	..	..	24	650	48	3900	900	..	..	18	360	35	35	..	550	..	..	5	..	2400	750	700	..	..
Dorchester, &c	..	..	..	..	32	1280	74	9000	2040	..	..	..	..	..	..	..	4100	..	..	..	..	..	..	..	..	..
Totals	..	..	..	..	656	10930	1122	22900	10940	..	..	168	3360	20035	12035	..	5050	..	..	75	1140	12400	2750	700	20	..
Grand Totals District No. 2	59	1157	37600	219	3564	84991	7370	217017	139311	52	9200	1715	47600	99899	90249	60	1016197	2400	6280	2200	45520	57110	2950	6723	57490	26

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—*Concluded.*

DISTRICTS.	KINDS OF FISH—*Concluded.*																FISH PRODUCTS.				VALUE.
	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Perch, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, tons.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
Westmoreland Co.																					$ cts.
Shediac and Botsford						1000	1000	8000	30	2000	500000		150	50	200	682704			2628	1000	166,700 28
West Sackville					250	100	900	5000			78210		10		15				600	400	22,260 10
Dorchester, &c.					336																4,180 00
Totals					586	1100	1900	13000	30	2000	587210		160	50	215	682704			3228	1400	193,140 38
Grand Totals. District No. 2.	6392	3329	1524	2900	719	4600	26200	220372	52	55500	3778952	11700	851	16710	246½	2365256	23707	235	30383	27264	1,445,194 82

RECAPITULATION of the Yield and Value of the Fisheries in **District No. 2, New Brunswick,** for the Year 1890.

Kinds of Fish.		Quantity.	Price.	Value.
			$ cts.	$ cts.
Salmon	Brls.	60	16 00	960 00
do fresh	Lbs.	1,016,197	0 20	203,239 40
do smoked	Lbs.	2,400	0 20	480 00
do in cans	Lbs.	6,280	0 15	942 00
Mackerel	Brls.	2,200	15 00	33,000 00
do in cans	Lbs.	45,520	0 12	5,462 40
Herring	Brls.	57,110	4 00	228,440 00
do smoked	Boxes	2,950	0 25	737 50
Alewives	Brls.	6,723	4 50	30,253 50
Cod	Cwt.	57,490	4 00	229,960 00
Cod Tongues and Sounds	Brls.	26	10 00	260 00
Hake	Cwt.	6,392	4 00	25,568 00
do Sounds	Lbs.	3,329	1 00	3,329 00
Haddock	Cwt.	1,524	4 00	6,096 00
Halibut	Lbs.	2,900	0 10	290 00
Shad	Brls.	719	10 00	7,190 00
Bass	Lbs.	4,600	0 06	276 00
Trout	Lbs.	26,200	0 10	2,620 00
Frost fish	Lbs.	220,372	0 04	8,814 88
Squid	Brls.	52	4 00	208 00
Flounders	Lbs.	55,500	0 10	5,550 00
Smelts	Lbs.	3,778,952	0 06	226,737 12
Perch	Lbs.	11,700	0 03	351 00
Eels	Brls.	851	10 00	8,510 00
Oysters	Brls.	16,710	3 00	50,130 00
Lobsters	Cans	2,365,256	0 12	283,830 72
do	Tons	246½	30 00	7,395 00
Fish Oil	Galls.	23,707	0 40	9,482 80
do Guano	Tons	235	25 00	5,875 00
do as bait	Brls.	30,383	1 50	45,574 50
do as manure	Brls.	27,264	0 50	13,632 00
Total for 1890				1,445,194 82

NUMBER and Value of Vessels, Boats, Nets, Weirs, Traps, &c., engaged in the Fisheries in District No. 2, **New Brunswick,** in the Year 1890.

Material.	Value.	Total.
	$ cts.	$ cts.
59 vessels (aggregate tonnage, 1,157)	37,600 00	
3,564 boats	84,991 00	
217,017 fathoms nets	139,311 00	
52 weirs	9,200 00	
1,715 smelt nets	47,600 00	
99,899 lobster traps	90,249 00	
2 mackerel traps	2,000 00	
		410,951 00
8 salmon and mackerel canneries	3,500 00	
106 lobster factories	98,500 00	
41 freezers	40,000 00	
82 ice houses	15,400 00	
10 smoke houses and fixtures	2,500 00	
4 oil presses with fixtures	450 00	
		160,350 00
Total		571,301 00

NEW BRUNSWICK—District No. 3.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., **District No. 3,** Province of **New Brunswick,** for the Year 1890.

DISTRICT No. 3.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.				
	Vessels.				Boats.			Nets.		Weirs.		Lobster Traps.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	Salmon, fresh, in ice, lbs	Herring, barrels.	Herrings, frozen, per 100.	Herrings, smoked, in boxes.	Alewives, barrels.
Counties.			$			$			$		$		$					
Albert										2	200			1600				
Victoria					20	200	40	700	500					4000				
Carleton					44	540	88	240	350					5000				
York					100	2250	200							18000				
Sunbury	1	12	150	4	87	880	144	3000	1500					330				1224
Queen's	1	12	150	4	245	3870	490	13850	4870					1820				1190
King's					70	700	215	5760	2390					12212				1300
St. John	18	357	7140	76	251	6270	502	76790	57580	28	10500	4028	4028	25296	6021	120000	7000	10000
Totals	20	381	7440	84	817	14710	1679	100340	67190	30	10700	4028	4028	68258	6021	120000	7000	13714

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c., **District No. 3,** Province of **New Brunswick**—*Concluded.*

DISTRICT No. 3.	KINDS OF FISH.														FISH PRODUCTS.		VALUE.
	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, barrels.	Sardines, hhds.	Lobsters, tons.	Fish Oil, gallons.	Fish used as bait, barrels.	
Counties.																	$ cts.
Albert	10						10		18000								645 00
Victoria							100		12000		500						3,015 00
Carleton							50		14000			10					3,000 00
York							100	4000	7500	8000	4000	10					6,290 00
Sunbury							84	600	1000	29000	4000	30					8,710 00
Queen's							778	2400		66700	6000	70					18,525 00
King's				25			275	70000	200	40000		2					17,782 40
St. John	1203	23	520	500	2200	350	3000					90	50	110½	750	600	133,136 70
Totals	1213	23	520	525	2200	350	4397	77000	36500	143700	14500	212	50	110½	750	600	191,104 10

RECAPITULATION of the Yield and Value of the Fisheries of **District No. 3—New Brunswick.**

Kinds of Fish.		Quantity.	Price.	Value.
			$ cts.	$ cts.
Salmon, fresh	Lbs.	68,258	0 20	13,651 60
Herring	Brls.	6,021	4 00	24,084 00
do frozen	No.	120,000	60c. per 100	720 00
do smoked*	Boxes	7,000	0 50	3,500 00
Alewives	Brls.	13,714	4 50	61,713 00
Cod	Cwt.	1,213	4 50	6,458 50
Cod Tongues and Sounds	Brls.	23	10 00	230 00
Pollock	Cwt.	520	4 00	2,080 00
Hake	Cwt.	525	4 00	2,100 00
Haddock	Cwt.	2,200	4 00	8,800 00
Halibut	Lbs.	350	0 10	35 00
Shad	Brls.	4,397	10 00	43,970 00
Bass	Lbs.	77,000	0 06	4,620 00
Trout	Lbs.	36,500	0 10	3,650 00
Pickerel	Lbs.	143,700	0 06	8,622 00
Perch	Lbs.	14,500	0 03	435 00
Eels	Brls.	212	10 00	2,120 00
Sardines	Hhds.	50	4 00	200 00
Lobsters	Tons.	110½	30 00	3,315 00
Fish oil	Galls.	750	0 40	300 00
Fish used as bait	Brls.	600	2 50	1,500 00
Total for 1890				191,104 10

* NOTE.—The smoked herring were put up in large boxes at 50 cents.

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—**New Brunswick** for the Year 1890.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								KINDS OF FISH.	
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.			
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.
			$			$			$		$		$		$		
Ristigouche					125	1250	195	23240	15540			4	80	3300	1650		139144
Gloucester	41	574	21700	140	1627	42140	3720	79265	54663	2	5200	307	6500	42400	42400		491430
Northumberland	13	503	13700	61	365	9050	515	40028	31559	50	4000	684	18510	7000	7000	69	361544
Kent	5	80	2200	18	791	21621	1818	51584	26609			552	19150	27164	27164		19029
Westmorland					656	10930	1122	22900	10940			168	3360	20035	12035		5050
Albert										2	200						1600
St. John	18	357	7140	76	251	6270	502	76790	57580	28	10500			4028	4028		25296
King's					70	700	215	5760	2390								12212
Queen's	1	12	150	4	245	3870	490	13850	4870								1820
Sunbury	1	12	150	4	87	880	144	3000	1500								330
York					100	2250	200										18000
Carleton					44	540	88	240	350								5000
Victoria					20	200	40	700	500								4000
Charlotte	72	1266	31450	311	1010	67750	1476	59511	44744	250	99080			14666	12783		350
Totals	151	2804	76490	614	5391	167451	10525	376868	251245	332	118980	1715	47600	118593	107060	60	1084805

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—
New Brunswick—*Continued.*

COUNTIES.	KINDS OF FISH—*Continued.*																
	Salmon, smoked, lbs.	Salmon, in cans, lbs	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, frozen, per 100.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod, Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Hake, Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.
Ristigouche		5280			100												
Gloucester			1678	40360	25010			830	55770	7		2400	2580	1420	900	10	500
Northumberland	2400	1000	270	1800	3400		200	2524	1000			400			2000	106	
Kent			177	1920	16200			2669	700	19		3592	749	104		17	3000
Westmorland			75	1440	12400		2750	700	20							586	1100
Albert									10							10	
St. John					6021	120000	7000	10000	1203	23	520	500		2200	350	3000	
King's								1300				25				275	70000
Queen's								1190								778	2400
Sunbury								1224								84	600
York																100	4000
Carleton																50	
Victoria																100	
Charlotte			1677		11270	13580000	1304186	140	18986	12	18439	21611	24262	9891	100000		
Totals	2400	6280	3877	45520	74400	13700000	1314136	20577	77689	61	18959	28528	27591	13615	103250	5116	81600

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—
New Brunswick—*Concluded.*

COUNTIES.	KINDS OF FISH—*Concluded.*												FISH PRODUCTS.				VALUE.
	Trout, lbs.	Frost fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, barrels.	Sardines, hhds.	Oysters, barrels.	Lobsters, tons.	Lobsters, cans.	Fish oil, galls.	Fish Guana, tons.	Fish, used as bait, barrels.	Fish, used as manure, barrels.	
																	$ cts.
Ristigouche	1000				7000						3	82800			400		40,266 80
Gloucester	6340	1700	22		524100			128		3000	21	714400	22400		16950	16040	644,683 20
Northumberland	4400	190000		30000	1760073			143		11500		110120	550	110	2040	9500	286,601 58
Kent	12560	15672		23500	909569		11700	420		2160	7½	775232	757	125	7765	124	280,602 86
Westmorland	1900	13000	30	2000	578210			160		50	215	682704			3228	1400	193,140 38
Albert	1800																645 00
St. John								90	50		110½		750		600		133,136 70
King's	200					40000		2									17,782 40
Queen's						66700	6000	70									18,525 00
Sunbury	1000					29000	4000	30									8,710 00
York	7500					8000	4000	10									6,290 00
Carleton	14000							10									3,000 00
Victoria	12000						500										3,015 00
Charlotte	12200	4300	47	23500	8000	1500			18770		657		72724	100	16176	6476	1,062,756 10
Totals	74900	224672	99	79000	3786952	145200	26200	1063	18820	16710	1014	2365256	97181	335	47159	33740	2,699,055 02

RECAPITULATION of the Yield and Value of the Fisheries of the whole **Province of New Brunswick**, 1890.

Kinds of Fish.	Prices.	Quantity.	Value.	Total.
	$ cts.		$ cts.	$ cts.
Salmon.....Brls.	16 00	60	960 00	
do fresh in ice.....Lbs.	.....	1,084,805	216,996 00	
do smoked.....Lbs.	0 20	2,400	480 00	
do in cans.....Lbs.	0 15	6,280	942 00	
				219,378 00
Mackerel.....Brls.	15 00	3,877	58,155 00	
do in cans.....Lbs.	0 12	45,520	5,462 40	
				63,617 40
Herring.....Brls.	4 00	74,401	297,604 00	
do smoked.....Boxes	.....	1,314,136	330,284 00	
do frozen.....No.	60c. p. 100	13,700,000	82,200 00	
				710,088 00
Alewives.....Brls.	4 50	20,577	.....	92,596 50
Cod.....Cwt.	.....	77,689	311,362 50	
Cod Tongues and Sounds.....Brls.	10 00	61	610 00	
				311,972 50
Pollock.....Cwt.	4 00	18,959	.....	75,836 00
Haddock.....do	4 00	13,615	.....	54,460 00
Hake.....do	4 00	28,528	114,112 00	
do Sounds.....Lbs.	1 00	27,591	27,591 00	
				141,703 00
Halibut.....Lbs.	0 10	103,250	.....	10,325 00
Shad.....Brls.	10 00	5,116	.....	51,160 00
Bass.....Lbs.	0 06	81,600	.....	4,896 00
Trout.....Lbs.	.....	74,900	.....	8,710 00
Flounders.....Lbs.	0 10	79,000	.....	7,900 00
Smelts.....Lbs.	.....	3,786,952	.....	227,537 12
Pickerel.....Lbs.	.....	145,200	.....	8,772 00
Perch.....Lbs.	0 03	26,200	.....	786 00
Frost Fish or Tom Cod.....Lbs.	.....	224,672	.....	9,244 88
Eels.....Brls.	10 00	1,063	.....	10,630 00
Squid.....do	4 00	99	.....	396 00
Sardines.....Hhds.	.....	18,820	94,050 00	
do in cans.....Cases.	4 50	400	1,800 00	95,850 00
Oysters.....Brls.	3 00	16,710	.....	50,130 00
Clams.....	.....	.....	.....	9,650 00
Lobsters in cans.....Lbs.	0 12	2,365,256	283,830 72	
do.....Tons.	.....	1,014	50,130 00	333,960 72
Fish Oil.....Galls.	0 40	97,181	.....	38,872 40
do as bait.....Brls.	.....	47,159	.....	71,338 50
do as manure.....do	0 50	33,740	.....	16,870 00
do guano.....Tons.	25 00	335	.....	8,375 00
do used in Dist. No. 1, not included above	.....	.....	.....	64,000 00
Total for 1890.....	.....	.....	.....	2,699,055 02
Total for 1889.....	.....	.....	.....	3,067,039 04
Decrease.....	.....	.....	.....	367,984 02

NOTE.—Where prices are not given. Inspectors used different prices.

TABLE showing the value of Vessels, Boats, Nets, &c., engaged in the fisheries of **New Brunswick** with approximate value of other fishing material not included in the Returns, 1890.

Articles.	Value.	Total Value.
	$	$
151 vessels, 2,804 tons	76,490	
5,391 boats	167,451	
376,868 fathoms of nets	251,245	
332 weirs	118,980	
2 mackerel traps	2,000	
1,715 smelt nets	47,600	
		663,766
118,593 lobster traps	107,060	
106 lobster factories	98,500	
		205,560
8 fish canneries	3,500	
2 sardine factories	6,500	
605 trawls	16,100	
41 freezers	40,000	
85 ice houses	16,150	
597 smoke houses with fixtures	186,545	
87 oil presses with fixtures	6,624	
1 fertilizer factory	40,000	
		315,419
		1,184,745

STATEMENT of the Number of Men engaged in New Brunswick.

Sailors	614
Fishermen in boats	10,525
Total	11,139

APPENDIX C.

PRINCE EDWARD ISLAND.

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND FOR 1890, BY INSPECTOR ED. HACKETT.

TIGNISH, P.E.I., 31st December, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report on the fisheries of the Province of Prince Edward Island for the year 1890; also tabulated statements giving product and values by counties, together with an estimate of capital employed in the fisheries of the Province the last calendar year.

The returns show the gratifying increase in value of $154,678.36 over the year 1889, as follows:—

Total value of Prince Edward Island fisheries 1889...	$ 886,430 84
do do do 1890...	1,041,109 20
Increase.....	$ 154,678 36

The increase is made up as follows:—

Salmon, lbs.....	3,300
Mackerel, brls.....	4,387
do canned, lbs.....	47,276
Herring, brls.....	13,562
Alewives, brls.....	54
Halibut, lbs.....	1,692
Trout, lbs.....	6,280
Eels, brls.....	1,198
Lobsters, lbs.....	355,847

The decreases are:—

Cod, cwt.....	4,764
Hake, cwt.....	18
Haddock, cwt.....	130
Bass, lbs.....	1,400
Smelts, lbs.....	20,770
Oysters, brls.....	6,054

The season opened early and promised to be remarkably favourable. High winds and stormy weather in the month of June, however, retarded operations considerably on the north side of the Island, causing great loss of outfit, especially in the lobster fishery. Spring herring were very abundant and were noticed to be of superior quality. The quantity taken is generally used as bait in the lobster and mackerel fisheries, and securing a supply early and at small cost is of great advantage to fishermen. Lobster fishing commenced as soon as the ice left the coast; canneries on the south side packing fish as early as the 1st of May. Ninety-eight factories were in operation, being seventeen more than during the previous year. About 96,000 traps were used, an increase of 19,000 as compared with the year 1889. Lobsters

were plentiful and of fair size, showing in this respect a marked improvement over the last three years. The increase in the catch of 355,847 pounds over 1889, cannot, however, be considered large, in view of the fact that seventeen more factories were in operation last season. The number of traps was also largely increased, and the production per trap does not exceed that of 1889. Stormy weather in June injuriously affected the fishery on the north side of the Island, thereby materially reducing the output for the year. Codfishing was not prosecuted with energy, and the catch shows a decrease of 4,764 cwt. This may be attributed to a scarcity of bait, the fish not remaining in shore for any length of time. Mackerel shows an increase of 4,387 brls. This valuable fish was not very plentiful, but the quality being excellent and prices high, the fishery was eagerly pursued. The fish did not "school up" to any extent; consequently seining proved a failure. Hook and line and gill-net fishing proved more successful and were actively prosecuted while the fish remained on the coast.

Oysters show a decrease of 6,054 brls. This falling off may be attributed to the cold and windy weather prevailing in the months of October and November, and not to any scarcity of oysters. The short catch had the effect of increasing the price, and those engaged in the industry are, I understand, well satisfied with the season's operations.

Smelts show a decrease of 20,770 lbs. This fishery has not come up to the expectations of those who engaged in it last year. The early closing of navigation and uncertain trips of the winter steamer by which the fish are sent to market, had a depressing effect on the fishery, resulting in the falling off indicated in the returns.

The minor fisheries show a slight improvement. Salmon which are not taken in the Island rivers, but in nets on the coast, were plentiful in the vicinity of St. Peter's Bay, and show an increase of 3,300 lbs. Sea trout were fairly plentiful in some of the rivers and the increase of 6,280 lbs. as shown by the returns, may be considered satisfactory, as indicating a better condition of the rivers and streams.

The season's operations generally may be considered the most satisfactory since 1886; all the principal branches of the coast and inland fisheries showing an encouraging upward tendency, giving promise of such results in the future as must be gratifying to your Department. Other matters, more directly affecting each branch of the fisheries of this Province, are referred to in the body of this report.

HERRING.

As already noted the principal herring fishery of the Province is known as the "spring herring." The fish come unto the coast from the 1st to the 15th May, and are taken in large quantities by gill nets at all points. When they first arrive, the fish are of good quality; and if properly cured and packed, would make a fairly good article of food. Very little attention is paid to them however, as they are principally required for bait, and are therefore cured in a very careless and slovenly way. At this season of the year, fishermen are busy preparing for the lobster fishery, and have no time to properly attend to herring; as a result, the fishery is neglected and any increase in the supply is caused by the demand for bait. Last spring they were most abundant; large quantities were landed all around the coast, and fishermen had no difficulty in providing a full supply of bait. Other schools of herring strike the coast during the summer and the autumn months. The latter are large and fat fish, and if properly cured would equal some of the best brands of pickled herring now on the markets. Little or no attention is paid to them however; and what might prove to be a lucrative industry is wholly neglected, through the lack of enterprise on the part of fishermen and dealers. The report of the delegates, sent in 1889, to enquire into the herring fisheries of Scotland and Holland, contains some valuable information with regard to this fishery, and should have the effect of introducing great changes in the pickled herring industry of Canada.

CODFISH.

This fishery shows a falling off of 4,764 cwt. as compared with the previous year. Cod were scarce in the coast waters of the Province during the whole season. This was due in a great measure to the scarcity of bait. It is evident that cod in the summer months leave their winter haunts and come into shallow water in pursuit of food. They prey largely upon the young of herrings, alewives, lobsters, trout, &c., and any cause that will deplete the waters of these fisheries will have the effect of reducing the quantity of cod frequenting our coast. During the past season, fresh bait for cod was in limited supply, and fishermen, as a result, were unable to prosecute the fishery with success. For many years past, the fishermen of Gloucester County, New Brunswick, have crossed over from their own shores to prosecute the cod fishery in the vicinity of North Cape, in this Province. These men use large, strongly built, well equipped boats, and have met with considerable success in this fishery. Last season, the usual numbers were to be seen on the fishing grounds from North Cape to Cascumpec, and as they fit out exclusively for cod-fishing, succeeded much better than the local fishermen, who divide their time between mackerel, cod, &c.

MACKEREL.

The mackerel fishery was prosecuted with vigour, and it is pleasing to notice an increase of 4,387 barrels. Fishing commenced early; some fish of large size being taken near Souris towards the end of May. The fish were of excellent quality and commanded high prices; a few barrels being sufficient to realize a fair summer's wages for the lucky individual who succeeded in catching them. Fishing with seines was not prosecuted to any extent, mackerel did not school as in former years, and seining had to be abandoned for the more primitive hook and line fishery. Gill nets were used at some places, but this mode of fishing has not yet become general, although large additions are being made to the number of fathoms used each year. In 1889, there was a great falling off in the catch on that part of the coast extending from East Point to St. Peter's Bay, and the fishermen fearing that this valuable fishery was about being destroyed, commenced an agitation against the use of gill nets. I am glad to be able to report a marked improvement in the catch at this place last season, which will, no doubt, have a great effect in allaying the fears of those interested. Mackerel are very erratic in their habits. Years of great plenty have been followed by seasons of remarkable scarcity. The fish approach our shores in the spring either for the purpose of spawning or in search of food, but as many of the fish have spawned before coming into the Gulf of St. Lawrence, it is apparent that their main purpose is to find food. The disappearance of the small fishes, their natural prey, may cause mackerel to leave their old feeding grounds for a time only to return again in greater numbers. The mackerel is, however, a wandering, unsteady fish, remarkably timid, and anything unusual occuring in the vicinity of its old haunts has, no doubt, the effect of driving it away. Fishermen allege that the purse seine, by breaking up the schools and scaring the fish off their feeding grounds has caused the present scarcity, and that the use of gill nets, if persisted in, will eventually destroy this valuable fishery. The decline of this fishery has been very rapid and as a consequence those interested are becoming alarmed and ask that some restriction be placed upon the use of seines and nets. The slight improvement this season indicates a favourable change, and another year may show even better results.

LOBSTERS.

This fishery opened early and was prosecuted with great vigor all through the season. The canneries on the south side of the Island, being favoured with fair weather and an abundance of lobsters, were very successful. On the north side, owing to heavy storms in June, the pack was not so large, and fishermen suffered heavy loss in traps and gear. *Ninety-eight factories* were in operation, being an

increase of seventeen over the previous year. About ninety-six thousand traps were used, an increase of nineteen thousand. The production per trap was 25⅙ one-pound cans, or about 1½ pounds less per trap than in 1889. This falling off was due, no doubt, to the poor fishing on the north side.

The fishery gave unmistakable signs of improvement, lobsters being more plentiful and of better quality than for the last three years. The shortened fishery season proved of benefit in increasing the quantity of lobsters; but the size continues small, and it is possible that many years must elapse before it is fully restored. By reports received from several factories, I estimate that it took six lobsters, on an average, to fill a one-pound can. The size regulation is difficult to enforce; fishermen now kill the undersized lobsters at the traps, when they find they cannot land them at the factories. This is done to prevent the small fish returning to the bait, thus giving additional trouble to the men in liberating them alive each time they haul the traps. To stop this vicious practice will be found very difficult, as it is carried on beyond the reach of the officers of the Department. It was hoped, in 1887, that those interested in the lobster industry, with the experience of the past before them, would see the necessity of protecting this valuable fishery and render the Department all possible assistance in endeavouring to restore it. So far as assisting to carry out the size regulation is concerned, this hope has not been realized; both canners and fishermen being disposed to continue the same reckless destruction of undersized fish, asserting that the present close season affords sufficient protection. It is needless for me here to state what is now so well established with regard to this fishery. Experience the world over has shown that lobsters, unless protected by wise regulations against the ingenious and fatal appliances of the fishermen, are easily exterminated. Our own decimated fishery affords ample proof of this, and, although the present regulations have, no doubt, checked the decline, I fear it will be found extremely difficult to restore its productiveness.

OYSTERS.

Oysters show a decrease of 6,054 barrels; the total production for the year being 35,203 barrels, against 41,257 barrels in 1889. The unusually stormy season caused much loss of time in the months of October and November, thereby reducing the output. The cool season, however, favoured shipments; the products reaching the markets in good order and realizing the highest prices obtained for many years. This industry runs pretty much on the same lines each year. The shippers here supply the same customers from year to year; the product being chiefly sold in the Provinces of Quebec and Ontario. The principal fishery is carried on at Richmond Bay, Prince County. The beds of this bay are extremely productive, and although continually raked for years, show no signs of exhaustion; the product this season both in quantity and quality being equal to any former one. The Grand River beds have also produced well this year, and are reported as being in good condition. At the Narrows, however, there is some complaint that the size is decreasing, indicating that the beds are being overfished. The beds in the rivers of Queen's County are becoming less productive each year, and are now fished principally for home consumption. To preserve these beds, drastic measure will be necessary, and it appears to me that nothing short of closing the fishery for a number of years will have the effect of restoring them. The only regulation in force in this Province at present is a close season, extending from the 1st of June to the 15th of September in each year. This regulation, while no doubt of great benefit as a protective measure, cannot be considered sufficient to preserve the beds. There should also be a regulation fixing a minumum size, under which no oysters should be landed. At present, large quantities of immature oysters are brought to the shore by fishermen, and as shippers will not buy them, are left in heaps to rot. Such reckless waste should not be allowed. The same may be said with regard to fishing through the ice, in winter. This mode of fishing is now largely carried on, and where prosecuted, must result in the destruction of the beds. The fisherman, by cutting a suitable hole in the ice, immediately over an oyster bed, and using a single long-handled rake or drag, is

enabled to raise and deposit on the ice, large quantities of oysters of all sizes, together with mud, &c., from the bed. After selecting all that are marketable, the others are left to freeze and die. This may not be considered any more objectionable than landing immature oysters in the fishing season, and allowing them to rot; but the greatest injury is caused by the dead oysters, mud, &c., falling back on the bed when the ice melts in the spring, thus smothering any live oysters which may have escaped the fishermen's drag, and utterly destroying the bed. I would earnestly recommend that a regulation prohibiting the fishing of oysters through the ice be adopted as soon as possible.

Oyster culture is now extensively carried on in several of the neighbouring States, as well as in the principal countries of Europe. Oyster farming in those places has become an established industry; the seed being planted and the crop raised with the same regularity, and with as great chances of success as attends farming on the land. The oyster being enormously fecund, increases very rapidly; the spat is sent out by the half million, and if the conditions be favourable, matures very quickly. The bays and estuaries of this Province afford ample opportunities to the enterprising private culturist who may desire to embark in oyster farming; and as the natural beds cannot be expected to always yield the necessary supply, this branch of industry would, in a few years, become profitable. Definite action with regard to this important matter should be taken at an early day. A system that has produced such marvellous results in other countries should succeed here; and would, if adopted, eventually prove a source of great national wealth.

TROUT.

Trout shows an increase of 6,280 pounds. In some of the rivers, trout were more plentiful than last year, while in others no improvement has been noticed. The best fishing was at North Lake, Naufrage and Fortune Rivers, King's County. Angling for sea trout affords excellent sport and large numbers of local sportsmen, as well as others, in search of recreation from the neighbouring provinces and the United States, resort to the Island streams during the summer months. It is therefore important that the rivers should be properly protected, and a more than ordinary effort in that direction was made this year. Special guardians were employed on the principal rivers, resulting in the seizure of several nets which were being used by poachers. This practice of netting the rivers for trout has been long carried on here and will be found difficult to stop. One poacher was detected with his net in the stream, and fined the maximum amount.

Mill owners were notified that they would be prosecuted, if sawdust and other mill rubbish was allowed to fall into the streams. As a rule, they endeavoured to comply with the regulation. The officers generally have been vigilant in watching the streams, and it is to be hoped that good results will follow.

SALMON.

This fine fish shows an increase of 3,300 pounds.

Salmon were reported as being plentiful around the coast, especially in the vicinity of St. Peter's Bay, where the quantity appearing in the returns was taken. They were also reported as being abundant in the principal rivers of the Province during the autumn months to spawn. Poachers gave considerable trouble on the Dunk River in October and November, and although well watched by the wardens, no doubt succeeded in taking some fish. These poachers are disguised, and being well armed, are dangerous men to attack. Officer McBride, in attempting to capture some of them was violently assaulted and received a severe wound on the head. With the hatchery in working order, it will not be so difficult to protect this stream.

OTHER FISHERIES.

Hake shows a decrease of 646 cwt. This fishery is declining every year, not through any scarcity of fish, but because fishermen do not prosecute it with the same vigour as formerly.

The catch of haddock also exhibits a slight falling off. Fishing for haddock is not prosecuted as a separate industry; the quantity appearing in the returns, having been taken accidentally in connection with the cod fishery. The same may be said of halibut, which shows an increase of 1,692 pounds and the catch of which fluctuates from year to year. Smelts have decreased 20,770 pounds. This falling off is due to the difficulty met in getting the product to market in the winter season. Eels show a considerable increase. This fishery was carried on with considerable energy during the fall months, and the results have been satisfactory.

The catch of alewives, shad and bass has been only nominal; the quantity taken being of little importance as an addition to our other fishery resources.

FISH PRODUCTS.

Owing to the small catch of cod and other ground fish, oil shows a decrease of 2,491 gallons. Unmanufactured fish manure on the contrary exhibits a considerable increase, which may be accounted for by the increased catch of lobsters, the bodies of which make a valuable fertilizer.

GENERALLY.

The year's operations may be considered satisfactory. The principal fisheries of the province have during the past season been actively prosecuted, and with one or two exceptions produced good results. The catch of some of the most valuable of our commercial fishes has exceeded that of many years past, and the prices realized came fully up to the expectations of those interested. These favourable conditions gave a healthy stimulus to the industry, and both dealers and fishermen are looking eagerly forward to the coming season, hoping that it may be even more successful.

In conclusion I desire to state that the wardens and other officers under my control, have evinced an earnest desire to assist in enforcing the Fishery Regulations. These Regulations are wisely framed for the purpose of protecting our sea coast and inland fisheries, and thus preserving for the people of Canada one of the most important resources of the country.

I have the honour to be, Sir,
Your obedient servant,
EDWARD HACKETT,
Inspector of Fisheries, Prince Edward Island.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in the Province of **Prince Edward Island**, for the Year 1890.

DISTRICTS.	Vessels and Boats Employed in Fishing.							Fishing Material.						Kinds of Fish.			
	Vessels.				Boats.			Nets.		Seines.		Traps.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, smoked, in boxes.
PRINCE CO.			$			$			$		$		$				
Nail Pond	....	....	....	....	53	1590	174	1925	960	1	300	....	....	440	....	2419	....
Skinner Pond	....	....	....	....	30	900	91	6100	3050	4	1200	....	....	566	706	2125	....
Miminigash	3	84	900	36	60	2400	230	1800	900	10	3000	....	....	1200	31200	2000	....
Campbellton	5	156	2800	25	17	425	51	1295	476	6	1800	....	....	260	1200	1010	....
West Cape	1	17	200	2	30	1200	90	1063	535	....	....	....	....	175	7200	1000	....
Brae	....	....	....	....	10	400	20	500	250	....	....	....	....	26	....	256	....
Egmont Bay	1	19	380	5	52	1438	104	2000	1000	2	800	....	....	300	....	2500	....
Summerside and Richmond Bay	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	100	....
Carlton	....	....	....	....	5	150	7	300	100	....	....	....	....	....	....	400	....
Cape Traverse	1	24	700	4	3	140	6	240	120	....	....	....	....	15	....	100	....
Malpeque	1	30	600	4	20	900	60	....	....	....	....	....	....	300	....	300	....
The Narrows	....	....	....	....	8	480	24	500	250	1	300	....	....	50	3840	1200	....
Cascumpec	7	286	5500	67	60	3000	240	1780	890	5	1500	....	....	525	....	4400	....
Tignish	4	152	3000	45	70	3500	280	1800	900	2	700	1	800	1500	35000	2200	....
Grand River	....	....	....	....	1	60	4	220	100	....	....	....	....	30	....	146	....
Rivers viz. :—Dunk, Lot 10, Trout and others.	1	18	300	4	3	60	6	60	30	....	....	....	....	....	....	20	....
Totals	24	786	14380	192	422	16643	1387	19583	9561	31	9600	1	800	5387	79146	20176	....

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—*Continued.*

DISTRICTS.	KINDS OF FISH.												FISH PRODUCTS.			VALUE.
	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
PRINCE CO.																$ cts.
Nail Pond	25	196		225	500		100	750		15		35520	396	30	350	23,198 30
Skinner Pond		200		100	100			800				144000	120	100	500	36,132 72
Miminigash		300		150	375	25		1200	1000	20		87600	375	700		43,923 50
Campbellton		130		42	25			500	300	3		50880	130		650	15,365 10
West Cape		80		100	300			500		2		124224	50		400	23,555 88
Brae	14							2400	6000	3	81	20400			50	4,823 00
Egmont Bay		20							16000			223440				42,352 80
Summerside and Richmond Bay									40000		24120	4800				75,736 00
Carlton												29407				5,128 84
Cape Traverse	10	20		5				500	5000	6		69698		360	1800	10,983 76
Malpeque		200		150				150	10000		380	34272	200	155	300	13,430 14
The Narrows		900		200					10000	15	3000	32080	500			24,210 40
Cascumpec		540	6	100	200			300	60000	350		29952	600		600	39,459 24
Tignish		500		300	3000	100	1200	500	7000	5		105796	500	1000	100	55,685 52
Grand River		20							6900	39	1400					6,118 00
Rivers, viz. :—Dunk, Lot 10, Trout and others	10							3700	88000	155	1100					10,625 00
Totals	59	3106	6	1372	4500	125	1300	11300	250200	613	30081	992069	2871	2345	4750	430,728 20

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—*Continued.*

DISTRICTS.	Vessels and Boats Employed in Fishing.							Fishing Material.				Kinds of Fish.			
	Vessels.				Boats.			Nets.		Seines.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.
QUEEN'S CO.			$			$			$		$				
Clifton															
New London	1	17	500	5	22	1100	70	2540	1270	3	960	405	7200	520	
Cavendish	3	185	4200	13	6	200	21	86	43			127		150	24
New Glasgow					8	400	24	250	125			144		120	
Rustico	3	45	1200	20	50	5000	200	5000	2500	11	4000	2143		2500	
Grand Tracadie	5	150	4500	30	75	3750	190	12000	6000	5	1500	1500	48000	1000	
Point Prim	10	250	5000	26	85	1500	148	2000	1000	1	400	40	3000	130	
Charlottetown															
Lot 65 and St. Peter's Island					50	1100	80	1220	610					580	
Argyle Shore					16	192	16					10			6
Crapaud	2	60	2060	10	5	300	10	200	100	1	300	80	400	300	
Wheatly River	1	64	1800	5	3	300	14	90	45			25		100	
Seal River					1	20	2					4			
Vernon River and Orwell	3	45	500	12	10	100	20								
Rivers, viz.: East, West, North, Johnston and others					18	200	36								
Totals	28	816	19700	121	349	14162	831	23386	11693	21	7160	4478	58600	5400	30

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—*Continued.*

DISTRICTS.	KINDS OF FISH—*Continued.*											FISH PRODUCTS.			VALUE.
	Cod, cwt.	Cod, Tongues and Sounds, barrels.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Shad, barrels.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
QUEEN'S CO.—*Concluded.*															$ cts.
Clifton							500	2000	200	120					2,530 00
New London	357		10	5							34224	200		100	14,726 38
Cavendish	85		20				950	600	22						3,384 00
New Glasgow	100		100				1000	500	15						3,720 00
Rustico	2000						1500	1530	120		31200	500		300	55,680 80
Grand Tracadie	1500							20000	300	14	49104	1000	400		49,394 48
Point Prim	60	1	60	55	28		250	200	2	5	146880	60	90	1800	20,866 10
Charlottetown										840					2,520 00
Lot 65 and St. Peter's Island										780	238533			1400	33,983 96
Argyle Shore							650	24000	6	1340	24000				8,642 00
Crapaud	15						1500	10000	8		46224		100		9,034 88
Wheatly River	45				15		250	800	43						1,518 00
Seal River							1800	4000	2	460					1,880 00
Vernon River and Orwell							300	200		460					1,422 00
Rivers, viz.: East' West, North, Johnston and others						5	1800	10000	20	1100					4,330 00
Totals	4162	1	190	60	43	5	10500	73830	738	5119	570165	1760	590	3600	213 632 60

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c., in the Province of **Prince Edward Island**—*Continued.*

DISTRICTS.	Vessels and Boats employed in Fishing.							Fishing Material.				Kinds of Fish.															Fish Products.			Value.
	Vessels.				Boats.			Nets.		Seines																				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Bass, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
KING'S CO.			$			$			$		$																			$ cts.
Souris	2	175	3500	33	80	2000	180	5000	2500	5	2000	...	300	....	800	...	1050	2000	1500	...	...	...	1000	...	...	..	52800	1000	600	...	28,386 00
Fortune Bay	...	...	...	...	13	390	42	110	55	2	640	....	60	...	300	..	40	50	50	10	...	...	1800	...	...	..	6384	50	200	...	3,791 08
Launching	...	...	...	...	120	2500	240	5000	2500	1	500	....	200	..	3000	...	75	100	100	...	...	...	...	....	20	..	135936	100	1500	....	34,552 32
George Town	3	90	1800	20	75	2000	230	6000	3000	1	350	....	520	...	5000	60	100	50	100	...	...	...	...	....	...	..	76800	200	...	....	38,016 00
Murray Harb'r.	18	450	4500	108	30	750	75	4000	2000	1	800	....	150	....	4000	...	2000	1500	2500	400	...	...	300	....	25	..	472320	1900	1300	....	94,768 40
North Lake	...	...	...	...	225	6500	675	10160	5080	1	350	...	2700	....	7000	120	3200	600	900	50	3600	...	8000	....	10	..	60720	1900	4000	....	100,196 40
Naufrage	...	...	...	...	70	1500	185	5000	2500	3	900	....	400	4000	300	...	300	400	...	20	...	...	2500	500	...	..	28000	300	...	....	14,320 00
St. Peter's	...	...	...	...	125	5990	375	31240	15620	..	....	4700	2040	...	1000	120	2200	200	150	100	...	...	...	...	...	..	12000	1200	800	...	49,275 00
Savage Harb'r	...	...	...	...	23	1390	69	4940	2470	..	....	....	502	4800	226	122	179	10	....	12	522	200	950	300	1600	3	9600	80	50	100	27,858 20
Montague	3	160	3200	20	5	200	15	500	250	..	....	....	100	....	300	...	20	....	....	10	....	...	500	500	6	..	.....	....	...	...	2,960 00
Rivers, viz :— Morell, Cardigan, Brudenell and others	...	...	...	...	...	.....	....	.....	.....	..	...	....	.....	.....	.....	...	.....	.....	.....	...	.....	...	26250	....	....	..	.. ..	....	.....	.....	2,625 00
Totals	26	875	13000	181	766	23220	2086	71950	35975	17	5540	4700	6972	8800	21926	422	9164	4910	5300	602	4122	200	41300	1300	1661	3	854560	6730	8450	100	396,748 40

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantity of Fish, and the Total Number of Men employed, &c., in the Province of **Prince Edward Island,** for the Year 1890.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.					
	Vessels.				Boats.			Nets.		Seines.		Traps.							
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, brls.	Mackerel, in cans	Herring, brls.	Alewives, brls.	Cod, cwt.
			$			$			$		$		$						
Prince	24	786	14380	192	422	16643	1387	19583	9561	31	9600	1	800	.....	5387	79146	20176	59	3106
Queen's	28	816	19700	121	349	14162	831	23386	11693	21	7160	....	.....	.....	4478	58600	5400	30	4162
King's	26	875	13000	181	766	23220	2086	71950	35975	17	5540	....	.....	4700	6972	8800	21926	422	9164
Totals	78	2477	47080	494	1537	54025	4304	114919	57229	69	22300	1	800	4700	16837	146546	47502	511	16432

COUNTIES.	KINDS OF FISH—*Concluded.*												FISH PRODUCTS.			VALUE.
	Cod Tongues and Sounds.	Hake, cwt.	Hake Sounds, lbs	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelts, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, brls.	
																$ cts.
Prince	6	1372	4500	125	1300	.....	.....	11300	250200	613	30081	992069	2871	2345	4750	430,728 20
Queen's	1	190	60	43	.....	5	.....	10500	73830	738	5119	570165	1760	590	3600	213,632 60
King's	.....	4910	5300	602	4122	....	200	41300	1300	1661	3	854560	6730	8450	100	396,748 40
Totals	7	6472	9860	770	5422	5	200	63100	325330	3012	35203	2416794	11361	11385	8450	1,041,109 20

RECAPITULATION.

YIELD and Value of the different Fisheries in the Province of **Prince Edward Island** during the Year 1890.

Kinds of Fish.		Quantity.	Price.	Value.	Increase. Quantity.	Decrease. Quantity.
			$ cts.	$ cts.		
Salmon, fresh	Lbs.	4,700	0 20	940 00	3,300	
Mackerel	Brls.	16,837	15 00	252,555 00	4,387	
do canned	Lbs.	146,546	0 12	17,585 52	47,276	
Herring	Brls.	47,502	4 00	190,008 00	13,562	
Alewives	do	511	4 50	2,299 50	54	
Cod	Cwt.	16,432	4 00	65,728 00		4,764
Cod Tongues and Sounds	Brls.	7	10 00	70 00		18
Hake	Cwt.	6,472	4 00	25,888 00		646
Hake Sounds	Lbs.	9,860	0 50	4,930 00	1,213	
Haddock	Cwt.	770	4 00	3,080 00		130
Halibut	Lbs.	5,422	0 10	542 20	1,692	
Shad	Brls.	5	10 00	50 00	4	
Bass	Lbs.	200	0 06	12 00		1,400
Trout	do	63,100	0 10	6,310 00	6,280	
Smelts	do	325,330	0 06	19,519 80		20,770
Eels	Brls.	3,012	10 00	30,120 00	1,198	
Oysters	do	35,203	3 00	105,609 00		6,054
Lobsters, canned	Lbs.	2,416,794	0 12	290,015 28	355,847	
Fish oil	Galls.	11,361	0 40	4,544 40		2,491
Fish used as bait	Brls.	11,385	1 50	17,077 50	11,385	
Unmanufactured fish manure	do	8,450	0 50	4,225 00		4,650
Total value of P.E.I. Fisheries in 1890				1,041,109 20		
do do 1889				886,430 84		
Increase in 1890				154,678 36		

ESTIMATE

Of Capital employed in the Fisheries of the Province of **Prince Edward Island** in the Year 1890.

	Value.	Total.
	$ cts.	$ cts.
78 vessels, 2,477 tons	47,080 00	
1,537 boats	54,025 00	
69 seines	22,300 00	
114,919 fathoms nets	57,229 00	
81,950 do trawls	3,851 00	
50 smelt nets	1,000 00	
95,725 lobster traps	57,435 00	
1 trap	800 00	
Fish stages and appliances	15,000 00	
98 lobster factories, in operation	78,400 00	
600 oyster boats	9,000 00	
1,100 rakes and tongs	2,200 00	
		348,320 00

APPENDIX D.

QUEBEC.

REPORT OF THE FISHERY OFFICER IN CHARGE OF THE GOVERNMENT VESSEL "LA CANADIENNE," ENGAGED IN THE PROTECTION OF THE GULF OF ST. LAWRENCE FISHERIES, FOR THE YEAR 1890.

GASPÉ, P. Q., 31st December, 1890.

The Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the report on the fisheries of the Gulf Division for the year 1890, together with synopses of the reports of the local fishery overseers, and tabulated statements of the product and values.

The yield for the year shows the considerable decrease in value of $267,667.09 as compared with the returns for 1889. This decrease is almost entirely due to the diminished catch of salmon, herring and cod in the Counties of Gaspé and Bonaventure, which show a falling off in salmon of 66,851 pounds, valued at $13,370: herring, 14,721 brls., valued at $68,884, and cod, 36,649 cwt., of the value of $146,596; the total decrease being $228,850.

On the north shore and Labrador, the cod-fishery shows an increase of 6,556 cwt., and salmon of 43,713 pounds over the yield of 1889. This represents a good fishery, the year 1889 being a fair average one.

This decrease is undoubtedly due to the severity of the season, which has been almost unprecedented in its roughness. In May and June, there was a prevalence of almost continuous east winds and rain, varied with occasional gales. July was comparatively fine; but after the 20th August the weather again became rough, and hardly a week passed without a severe gale. During June, much damage was done to lobster traps and salmon nets, and during the fall gales, many boats were lost.

SALMON.

The total yield of salmon in this division amounts to 591,079 lbs. as compared with 584,217 lbs. for the previous season, or an increase of 6,862 lbs. As before stated, there was a heavy decrease on the south shore, but this has been more than made up by the increased catch on the north shore. Salmon net fishing began on the south shore about the 25th May. The weather during June, when the bulk of the fishery is usually made, was unfavourable, being cold and wet with constant easterly wind; many of the nets in exposed situations being carried away. There is no doubt that the fish avoided the shores and kept right up the rivers. All the river guardians, from whom we have reports, agree in saying that fly-fishing was good and that the pools are more than usually full of breeding fish. On the north shore, the salmon net fishery was unusually good, many nets west of the Moisie river and in the neighbourhood of Trinity Bay having done better than ever before. It is worthy of remark that the run of salmon on the north shore is steadier and has not fallen off as it has on the south shore. I am inclined to think that the disappearance of capelin on the south coast, while it is constant on the north shore, has a good deal to do with this state of affairs. A steamer from France the "Frigide," the old "Diana" of the Hudson Bay Company, came out to Natashquan early in June and purchased all the salmon, not already contracted for, to be had between Natashquan and Agwanus.

When the fishery began to slacken, she left for Chateau Bay in the Straits, where she hoped to complete her load before returning to Havre. She was fitted to freeze the fish on board, and if the venture turns out well, will return to the coast in 1891.

COD.

Cod-fishing began about the end of May; during the early summer, up to the 20th July, the South shore fishery promised well, after that date, bait became scarce, and as the season advanced, the weather got rougher and rougher, and the damage to boats and gear became so great, that the fishery was really abandoned before its close. On the south coast, the fishery is short, compared with 1889, which was about an average year, by nearly 37,000 cwts. After the middle of July, bait was always scarce, and squid, which constitutes the bait between the end of July and the middle of October, failed altogether. Fishermen are loud in their complaints against the order forbidding seining of smelt for bait. It was unfortunate that this season, the first in which this regulation was enforced, should have been one in which over a great part of the coast there has really no other bait to be had.

On the north coast and Labrador, the fishing was good; cod were distributed abundantly all along the coast from Godbout to Blancs Sablons, but they never took the hook freely for any length of time. The fall fishery between Mingan and Point des Monts was a failure owing to the continued rough weather. Below Mingan, there is no fall fishing; the season ending with the disappearance of capelin, about the close of July. The increased summer catch, however, fully made up for the failure in the fall. The yield on the north coast for this season is 62,972 cwts., against 56,417 cwts. in 1889. The Esquimaux Point fleet, as usual, missed the cod. They held on at Natashquan until the 8th July, when they left for below. By the 21st, many of them had passed back to the Point to fit out for the herring fishery, which they only make in September and October. Those who remained below gave up the cod-fishery, and hung about the lower harbours, waiting for the herring which never came. Had these people stuck to the cod-fishery, as they should have done, there is no reason why they could not have made as good voyages as did the Nova Scotia vessels, which, between the 28th July and the 3rd August, filled up with cod at Dog Islands and St. Augustin, where for a week the fish were in enormous quantities and took the bait ravenously with the float line, which is the only rig that these Esquimaux Point people ever use. While these men in vessels from Esquimaux Point were amusing themselves sailing backwards and forwards along the coast, a few of those who could not get away began fishing off the Point, and though the boats they had and the lines they were rigged with, were almost past service, yet during the season they took some 600 cwts. of cod. The sooner these fishermen from the Point learn to provide themselves with modern appliances and prosecute the fishery with intelligence and energy, the sooner will there be an end to their complaints. It is impossible that there can be anything else but misery at Esquimaux Point, as long as their various fisheries are conducted in the present badly found and careless manner. They would, in any case, do far better to give up cod-fishing in vessels, and fit out with boats to carry on this fishery from the shore, abreast of their own homes, as is done by all the other communities on the North coast. The vessels, if properly fitted and found, could still be used for the seal and herring fisheries.

HERRING.

Spring herring were abundant at Magdalen Islands, and in the Baie des Chaleurs, during the first spring tides of May. These herring are taken in enormous quantities in the Bay for manure, and at Magdalen Islands, both for manure, and bait. Many foreign and domestic vessels visit the Islands, for the purpose of getting herring for the bank cod-fishery and for baiting lobster traps.

During the summer, herring were always scarce, and in the fall in many places none at all were found. This scarcity may have been partly due to the heavy

weather which kept herring off shore; that this was so, is evinced by the fact that boats often found herring on the banks, when they could get none ashore. But, this alone does not account for the steady and continued failure of the fall (fat) herring.

I think there can be no doubt that the practice of taking unspawned herring in such enormous quantities for manure must be wrong. There is a growing feeling that the time has come when the taking of such a valuable food fish as herring for manure should be stopped. I believe that it should not even be permitted to take herring in large quantities for bait for export, until the spawning season is over. I have many times called the attention of your Department to this matter, and I would again urge it upon your favourable consideration.

The fleet from Esquimaux Point again missed the herring. These people who had abandonned the cod-fishery during the middle of July to fit out or prepare for herring fishing which usually takes place in September and October, about the Straits of Belle Isle and the west coast of Newfoundland, with their usual bad luck and in spite of their early preparation, did nothing; the fleet of 19 vessels taking only 900 brls.

They were again harrassed by the Newfoundland Custom House officers, and compelled to pay duty on salt and barrels which they had on board for the purpose of the fishery, and not for trade. The following vessels paid these duties as follows:—

Schooner	"Java," D. Cormier, Master		$16 00
do	"Stella Maris," L. Cummings, Master		28 00
do	"Progress," V. Boudreault	do	32 00
do	"H. B.," H. Boudreault	do	32 00
do	"Gleaner," S. Landry	do	24 00
do	"Labrador," P. Doyle	do	22 50
do	"Elizabeth," Cormier	do	16 60
do	"Ste. Marie," Shearer	do	No return of amout.
do	"Sea Star," J. Muldoon	do	do

It certainly seems unfair that our fishing vessels should be compelled to pay duty on fishing outfit which is solely for their own use, is never landed, and is not intended for trade.

This imposition is made worse by the fact that the Newfoundland authorities are not even able to protect these people, after making them pay such duties, as they have frequently been driven off by French cruisers. This matter should receive the attention of our custom authorities.

LOBSTERS.

The lobster fishery shows a slight increase; the figures being for this year 616,218 lbs. as against 593,950 lbs. for 1889. This increase is more than accounted for by the openning of two new canneries on the Island of Anticosti. These canneries were opened by people from Nova Scotia, who had left in the early spring with the intention of establishing themselves on the west coast of Newfoundland, but owing to the troubles there were driven off. Instead of returning to Nova Scotia, they decided to give Anticosti a trial. After making arrangements with the owners of the island for sites, they put up two canneries, the material for which they had on board their vessels. They were late in getting to work, and were much hampered by the drift ice in June. In spite of these drawbacks, they made a good fishery, putting up 60,000 lbs.

Lobsters are abundant all around the Island of Anticosti, and as the ground is new, the run of fish is large. The trouble will be that owing to the rocky nature of the bottom, and the complete want of shelter, the loss of traps will be something enormous.

In most localities, the season was not a favourable one; the loss of traps in some cases having run up to 80 per cent.

There is no doubt that in the Baie des Chaleurs where there has been many factories in operation for some years, the run of lobsters is improving. In fact, on the main

land shores of Gaspé and Bonaventure, no falling of in the size of lobsters was noticed during the past three seasons. The coast is not overfished, and the shortened season is beginning to tell.

At Magdalen Islands, this stoppage in the decreasing size of the lobster is not so apparent, though some of the more intelligent fishermen claim that even here the new regulations are beginning to tell. If these regulations are to remain in force, it will be necessary to have a number of local guardians to assist the fishery officer in watching the canneries.

MACKEREL.

Mackerel were fairly abundant around the Magdalen Islands throughout the season, and 5,018 brls. were caught by the local fishermen with hook and line. A fleet of about twenty United States fishermen fished there from early in August until late in October. No very large catches were made, and they took nearly all their fish with hook and line. In some instances, the fish were tolled to the surface; and the seine shot around them, but, as a rule, the seine was not used, several of the vessels were fitted solely as hook and liners, and others left their seine boats ashore. The mackerel did not school at the surface; the run was large and fat.

A few schools were noticed between Point des Monts and St. Ann's, in the River St. Lawrence; but in Gaspé Bay, Port Daniel and Seven Islands Bays, no mackerel whatever were seen. The price of mackerel continued high.

SEALS.

The seal fishery was a failure; the Magdalen Island fleet taking only 11,628 seals among 21 vessels—not half a fishery—while the vessels from Esquimaux Point took only 2,155. Seals were abundant; in fact owing to the poor fisheries of recent years; they are accumulating, but the ice was so packed that these small, poorly found sailing vessels were not able to reach them.

BAIT.

Bait in the shape of spring herring was fairly abundant in May and June, but the summer and fall herring was everywhere either scarce or altogether absent.

Capelin were unusually abundant on the north coast and Labrador; but this bait is now a thing of the past along the south shore, it being only about Paspebiac that any is taken.

Squid, the bait usually relied on from the end of July until well into October, missed altogether. It is impossible to account for this failure, but it happens this way now and then.

Fortunately, over most of the coast, clams are found in abundance in the estuaries and sandy Barachois. They are used fresh, and furnish reliable bait. Some of our large fishing firms have, at various times, imported salted clams from Halifax, but they were found so little useful as bait that the fishermen refused to go out with them. The scarcity of bait was much felt on some of the larger fishing rooms, such as at Percé, Bonaventure Island, Point St. Peter, Cape Cove, and Grand River, where there are no clam banks.

Appended hereto are synopses of the reports of the various local officers in the division.

I have the honour to be, Sir,
Your obedient servant,,
WM. WAKEHAM,
Fishery Officer in charge of the Gulf and lower St. Lawrence Division.

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

RISTIGOUCHE SUBDIVISION.

Overseer J. A. Verge reports the catch of salmon as only 33,465 lbs., as against 52,880 lbs. in 1889. This is, of course, only for the Quebec side of the estuary. This shortage is supposed to be due to the prevalence of easterly gales during the main

run of the fish. Many nets were torn, and all more or less cast adrift. The fish also kept to the channels and avoided the shores. After the rough weather had passed, it was noticed that salmon were very abundant above the tide, in the lower portions of the river; and in October, the spawning beds on the main river and Kedgewick never contained more fish. Due regard was paid by licensees to the fishery laws and regulations, and the Sunday close time was strictly complied with.

The smelt fishery was a failure, owing to the shifting of the ice; only 11,000 lbs. being taken.

CARLETON SUB-DIVISION.

Overseer P. Cyr reports salmon fishing a failure. Many nets did not half pay expenses; the take being only 27,334 lbs., as compared with 37,805 lbs. in 1889. Fishermen attribute this failure to the prevalence of easterly wind, causing the fish to keep in deep water while passing in to the estuaries of the Ristigouche and Grand Cascapedia.

Cod was abundant right up the Bay to Maguasha, but bait was scarce. Herring were plentiful, but the catch was small, owing to continued rough weather which prevailed throughout the whole season, and caused much damage to nets and gear.

BONAVENTURE SUB-DIVISION.

Overseer J. L. Smith reports that salmon fishing in his division shows a decrease of 3,382 lbs. as compared with last year. Spring herring were plentiful at Paspebiac, New Carlisle and Bonaventure, but scarce at other stations. Lobster fishing began on 10th May, with a good catch. Two factories were open, and in proportion to the number of traps fished, the catch was good; lobsters being larger than last year.

Capelin were scarce; only a few being taken at Paspebiac and New Carlisle.

The summer catch of cod was fair, but bait was scarce, and fishermen had to use clams. Fall fishing was about an average, but bait was always scarce. Mackerel and fall herring were a failure.

PORT DANIEL SUB-DIVISION.

Overseer J. Phelan reports that the salmon fishing season began on 27th May and closed 21st July, being 15 days shorter than last year. There is a shortage of 3,000 lbs., as compared with last year; this was confined to one stand, that of Jean Langlois. The failure of this stand was due to the work going on at Port Daniel wharf during the fishing. The catch otherwise was fully up to an average.

Cod-fishing began on the 5th June with good indications, but these did not continue; bait failed in July, and by the 1st of August it was evident that the summer fishery would be a failure. It was hoped that the fall fishery would make up the loss, but bait never come in; herring and squid missed entirely. From the end of August to the close of navigation, there was nothing but a succession of gales, such as have seldom been experienced on the coast. There was no scarcity of fish; the failure of the fishery was entirely due to want of bait and stormy weather.

In the last few years, summer herring have been falling off; this year there could not be had half enough for bait. Though Mr. Phelan does not think that the seining of spring herring for manure is the only cause of this failure; yet, he favours the prevention of seining for manure. Spring herring were plentiful, and were largely taken for manure. Many Nova Scotia vessels baited at Port Daniel in the spring, paying from 60 cents to 75 cents a barrel for spring herring. No mackerel were caught, nor were any seen on the coast.

Lobster fishing began on the 13th of May and closed 10th July. Lobsters appear to hold out well both in size and quantity; the cacth during the first two or three weeks of the season being exceedingly good. Later on, fishing operations were interrupted by frequent storms, causing considerable wreckage of traps. The fishery was ten days later in opening than in 1889.

Fishermen of all classes sustained considerable loss, through wreckage, this season. At l'Anse au Gascon, several boats were broken, and some protection in the shape

of a breakwater is much needed there so that boats can remain afloat in safety. Fishermen complain bitterly against the smelt regulation, especially with such a season as this, when no other bait was to be had. Owing to the enforcement of these regulations, many codfishermen were prevented from earning their living.

GRAND-RIVER SUBDIVISION.

Overseer H. Jones reports the salmon catch about the same as last year; the yield this season being 16,000 lbs. as against 16,008 for 1889. Salmon nets in this sub-division are all on the sea coast and as a natural consequence are disturbed by rough weather more than the sheltered nets in the estuaries. The lobster fishery was late in beginning by fully ten days, and the loss of traps was so great that after the rough weather in the end of June most of the factories closed down.

Cod-fishing was a failure, owing to want of bait; herring being scarce all summer and squid still scarcer in the fall. The weather was constanly bad, and during the unusually heavy gales of the 28th August and the 5th October, many boats were broken at the moorings and lost. The falling off in this sub-division alone amounts to 15,000 cwts.

Smelt fishing was also a failure; only 2,080 lbs. being seined, against 20,000 lbs. last year. The smelt kept out and did not run into the estuaries until after the close of navigation.

GASPÉ SUBDIVISION.

Overseer G. Annett reports salmon fishing a failure—the take being 46,456 lbs. compared with 75,023 lbs. in 1889. This is held by net fishermen to be altogether due to the bad weather which prevailed during the end of May and June.

Lobster fishing gave about the same return as in 1889; there being a decrease this season of only 2,500 lbs. which would be more than accounted for by the unfavourable season. Most of the lobster factories closed down before the end of the season; during the first weeks of the fishing, the run of lobsters was good and the size fair.

Cod fishing was decidedly poor; not on account of any scarcity of fish, as when the boats went out with bait, good fares were made, but owing to scarcity of bait and rough weather. At Point St.Peter, on the 5th and 6th of October, several boats were destroyed during an unusually heavy gale. Smelt fishing was also a failure. There were taken this fall 74,665 lbs. as compared with 101,860 lbs. in 1889. These fish kept on shore during the early part of the season in October, owing to the rough weather and heavy floods in the rivers. It was only during the last week of the fishery, between the 10th and 17th of November, that anything was done. After the close of the fishing season, on the 18th November, when the Str. "Admiral" stopped running, smelt came in and were abundant in the bays and estuaries.

MAGDALEN RIVER SUB-DIVISION.

Overseer J. Lemieux reports salmon fishing as poor. Cod struck in on the 8th June; the fishery is below the average. Cod seemed to be plenty but bait was always scarce; for weeks at the time none being had. Squid missed entirely in this division. No mackerel were seen, and the white porpoises, which have so disturbed the cod-fishery of recent years, did not, this season, put in an appearance.

ST. ANNE DES MONTS SUB-DIVISION.

Overseer Jos. J. Létourneau reports the cod-fishery as being slightly better this year than last. Cod were late in arriving, and bait was scarce. The white porpoises did not fail to visit the coast as usual; and at each visit they drove away the cod and the bait for fully a week. The salmon net fishery amounts to nothing, as there are now only two small nets licensed, which caught about 3 brls. of salmon. The salmon were late in entering the river, but the spawning pools were unusually full this fall. No trout nets were set this season. Herring were scarce, and always poor in quality. A good many schools of mackerel were noticed well off shore in the River St. Lawrence, but they never came in-shore and none were taken.

MAGDALEN ISLANDS SUB-DIVISION.

Overseer A. Chevrier reports a poor spring seal fishery. Owing to the motion of the ice, the schooners could not reach to the seals. It is now several years since the Islands shooners have made a good seal fishery. In the meantime, seals are accumulating; immense herds were seen, but the vessels only killed 11,628. The take of lobsters was fair, 341,088 lbs. being canned, being 11,676 lbs. more than in 1889. The season began well, but during the end of June an easterly gale broke up many of the traps. In one case, a canner reported 80 per cent. of his traps destroyed. The fishery was pretty well over by the end of June, damaged traps not being replaced. The cod-fishery was poor. The fish did not seem to be plenty on the inshore grounds, and, as soon as the mackerel struck in, the bulk of the fishermen gave up the cod and took to mackerel fishery.

The mackerel fishery was fairly good, local boats taking 5,018 barrels, altogether with the jig. The Islands fishermen complain that their hook-and-line fishing was very much curtailed by the great quantity of gill nets set off the Islands, especially off Grand Entry and Pleasant Bay, by foreign fishing vessels. The prices paid for mackerel continued high.

Spring herring were abundant, and large quantities were taken by vessels from the United States, Nova Scotia and Newfoundland. Several French vessels come over from St. Pierre to buy herring for bait.

POINT DES MONTS SUB-DIVISION.

Overseer J. Comeau reports a considerable increase in the catch of salmon in his division, 61,465 lbs. being taken, as against 43,250 lbs. in 1889. The weather was very unfavourable, and the heavy easterly winds did much damage; several fishermen losing their nets entirely. The run of salmon was late, but steady and regular all through the season. Angling was also good; the Trinity River giving one-third more than the usual catch, while on the Godbout, three rods took the enormous number of 509 fish. Trout seemed scarce. Cod struck in early, a few being taken at Trinity Bay in May, fully a month earlier than usual. The fish remained on the banks all season, and as late as the 8th November they were still abundant. The catch was considerably more than last year. Herring and halibut were not as abundant as usual. Bait, herring and squid were scarce; in fact, no squid were seen this season. The principal bait used was clams. One or two schools of mackerel were seen off Godbout in July, and a few barrels were taken in herring nets. There was a large decrease in the number of seals killed at Point des Monts during the winter. At Manicouagan, the summer seal fishery was fair. The seal taken in summer at Manicouagan is the common harbour seal (*Phoca Vitulina*), while at Point des Monts, in winter, the seal killed is the Greenland seal (*Phoca Groenlandica*).

MOISIE SUB-DIVISION.

Overseer T. Migneault reports that salmon net fishing began on 28th May, and was at its best between the 5th and 23rd June. Some of the nets in the bay, west of Moisie River made enormous catches. The run of salmon was smaller than usual; 198 salmon were taken with the fly by six rods, but the gentlemen gave up fishing on the 3rd July, when the fishing was at its best. The river was full of fish. The cod-fishing was fair, especially in the fall; 3,855 cwts. being taken as against 3,051 cwts. in 1889. Bait was scarce towards the end of the season. Had it not been for this, the catch of cod would have been much more considerable. No mackerel were seen at Seven Islands. Fall herring were scarce, the take being short of last season's by 251 barrels.

MINGAN SUB-DIVISION.

Overseer G. L. Duguay reports salmon fishing good in his division. The summer cod-fishing was also good, but fall fishing was a failure, owing to continuous rough weather. There were taken 17,600 cwts. of cod, as compared with 18,550 cwts. during the previous year. In view of the fact that fall fishing was a failure, this represents a good summer fishing. The fishermen from Esquimaux Point failed at each of their three fisheries: 1st. At the seal fishing in the ice, twenty-two schooners taking only 2,000 seals, yielding about 6,000 gallons of oil. 2nd. At the

cod-fishery, the fleet which went below returned with only about 900 cwts. 3rd. At the herring fishery made in the Straits and on the west coast of Newfoundland, the same vessels took only 900 barrels. As a consequence, the people at the Point are poorly off, and some fifty families have had to leave. Twenty boats which carried on the fishery in deep water right abreast of the Point took 600 cwts.; this in spite of the fact that they were poorly rigged, and owing to the absence of other bait but clams.

NATASHQUAN SUB-DIVISION.

Overseer G. Gaudin, reports the seal fishery a failure, only 485 seals being taken by the six schooners of Natashquan, against 5,318 the year before. The first salmon was taken in the river on the 5th June; the river gave about the same quantity as last year. The outside stations did well, in spite of drift ice which remained until the 21st June. Three rods took 203 salmon in the Great Natashquan in three weeks. A few herring were caught in the spring, but during the summer and fall none were taken. Cod struck in abundantly with the capelin on the 12th June, but no great loads were made; fishermen complaining that the fish would not take the bait. The fish disappeared from the grounds on the 5th July, leaving with the capelin. After this date, the boats made several trips to the off shore banks at Kegashka; the trips often taking a week or more. Seven families left this season. Two removed to the upper part of the province, two returned to Magdalen Islands, from which they came a few years ago, and three crossed to Port Daniel, in Baie des Chaleurs.

WASHEECOOTAI SUB-DIVISION.

Overseer G. Mathurin reports that salmon fishing began only on 20th June, owing to the quantity of drift ice kept on shore by prevailing easterly winds. Many nets were carried away by the ice, and fishermen were too poor to replace them. A number of boats came down in July and August to fish for cod off Kegashka; they did fairly well. There are only two boats carrying on cod-fishing in this division.

ST. AUGUSTIN SUB-DIVISION.

Overseer J. Legouvie reports that the salmon fishery was late in beginning, owing to the field ice which remained on shore, so that nets could not be set in many places before the 24th June. Only 96 brls. were taken, compared with 116 in 1889.

Cod was very abundant from Harrington to Chicatica, between the 15th June and the 7th August, but it was only during the last ten days of this season, that they would take the bait at all freely. At the large fishing stations at Harrington and Mutton Bay, the fishermen took most of their fish in deep water. Bait was scarce after the passing of the capelin, and most of the cod was taken on clams. Fall herring were very scarce; only 75 brls. being taken against 1,441 the year before.

BONNE ESPERANCE.

Overseer Wm. Whitely reports that salmon were more abundant than last year. They ran freely for three days, about the 5th July, but slackened off immediately afterwards. The returns give 143 brls., as against 75 the year before.

Cod-fishing was good; the northern ice coming in through the straits in June somewhat delayed the fishery, but after the 27th June, when the fish struck the coast, they were very abundant for six weeks; unfortunately they would not take the bait, until during the last two weeks; seines and traps were successful.

The seal fishery was a failure, owing to the ice blocking the coast until the end of June.

Herring were very scarce; a few being taken at Bradore, and Middle Bay in the first days of August. This fishery has been a failure, as none were taken on the Newfoundland Labrador.

All the residents of this part of the Labrador are well provided for the winter. The prospects for the cod-fishery are brighter than for some years. Localities that have failed for years back, have this season been visited by codfish in abundance, reminding us all of old times. There was taken in this division 23,650 cwts. of cod, compared with 19,770 last year; this does not include the fish taken by vessels from Nova Scotia or Newfoundland.

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials, **County of Bonaventure,** Province RISTIGOUCHE SUB-DIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap-Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		$
Ristigouche	..	..	....	..	19	90	19	5990	5990	.....	.....	10	250
CARLETON SUB-DIVISION													
Maguasha and Nouvelle	..	...	...	..	6	90	7	1200	800	.....	.....	.....	....
Carleton	.....	.....	.....	..	36	450	36	3966	2550	600	200	.....	....
Maria	.....	.....	.....	..	30	240	30	2730	1600	600	200	.....	....
Totals	.....	.....	.....	..	72	780	73	7893	4950	1200	400	....	....
BONAVENTURE SUB-DIVISION													
New Richmond	.....	.....	.....	..	30	300	25	930	470	....	.....	.....	....
Black Capes	.....	.....	.....	..	26	250	22	1835	1200	.....	.....	.....	....
Capelin	.....	.....	.....	..	140	1560	90	5800	2600	130	75	...	....
Bonaventure	.....	.....	.....	..	210	2900	140	6940	3270	1050	650	....	....
New Carlisle	.....	.....	.....	..	50	524	50	700	600	500	400	....	....
Paspebiac	6	280	6000	28	105	1500	180	3500	1850	500	350	....	....
Totals	6	280	6000	28	561	7034	507	19705	9990	2180	1475	....	....
PORT DANIEL SUB-DIVISION													
Paspebiac Portage	.....	.....	.....	..	20	1260	50	800	400	60	100	....	....
Nouvelle	.....	.....	.....	..	30	2000	70	1200	600	120	180	....	....
Shegawake	.....	.....	.....	..	24	900	50	1200	600	20	30	....	....
Point Loup-Marin	.....	.....	.....	..	60	800	70	1200	600	60	90	....	....
Port Daniel	.....	.....	.....	..	40	1600	70	1400	700	100	150	....	....
L'Anse à la Barbe	.....	.....	.....	..	25	1500	60	1000	500	40	60	....	....
L'Anse à Gascon	.....	.....	.....	..	60	5000	150	3000	1200	160	240	....	....
Totals	.....	.....	.....	..	259	13060	520	9800	4600	560	850	....	...
TOTAL FOR COUNTY													
Ristigouche Sub-division	.....	.....	.....	..	19	90	19	5990	5990	.....	.....	10	250
Carleton do	.....	.....	.....	..	72	780	73	7893	4950	1200	400	.....	....
Bonaventure do	6	280	6000	28	561	7034	507	19705	9990	2180	1475	....	...
Port Daniel do	.....	.....	.....	..	259	13060	520	9800	4600	560	850	.....	....
Totals	6	280	6000	28	911	20964	1119	43388	25530	3940	2725	10	250

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1890.

(Head of the Tide to Maguasha).

Kinds of Fish.									Fish Products.				Value.
Smelts, lbs.	Salmon, fresh, lbs.	Cod, cwt.	Herring, barrels.	Herring, smoked, boxes.	Trout, barrels.	Eels, barrels.	Lobsters, in cans, lbs.	Coarse and mixed fish, barrels.	Cod oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.	
													$ cts.
11000	33465												7,243 00
(Maguasha to Grand Cascapedia).													
	4800		50		10	10					1000	500	3,860 00
	6850	185	200	100		20			95	30	3000	400	6,318 00
	15684	200	250	100		27			100	50	4000	800	10,546 80
	27334	385	500	200	10	57			195	80	8000	1700	20,724 80
(Grand Cascapedia to Paspebiac Point).													
	4117	70							30	70	400	240	2,380 40
	8050	100							45	100	1250	290	3,963 00
	600	500		100					250	200	2700	300	5,095 00
	400	2000		200			17760		1000	800	6000	1600	21,261 20
	500	500		50			14400		225	200	3500	400	7,580 50
		1500							1000	700	5000	1000	13,950 00
	13667	4670		350			32160		2550	2070	18850	3830	54,230 10
(Paspebiac Point to Point Maquereau).													
	300	450	5					10	300	100	600	220	3,360 00
		300	5				29952		200	120	500	234	6,260 24
		250	4						150	150	500	300	2,751 00
		300	4					4	200	100	800	125	2,358 00
12000	17929	900	5				25566		700	300	600	200	12,703 72
	1400	500	6					5	300	200	700	75	3,389 00
	700	1700	10				7776	10	1000	400	600	325	10,543 12
12000	20329	4400	39				63294	29	2850	1370	4300	1479	41,365 08
OF BONAVENTURE.													
11000	33465												7,243 00
	27334	385	500	200	10	57			195	80	8000	1700	20,724 80
	13667	460		350			32160		2550	2070	18850	3830	54,230 10
12000	20329	4400	39				63294	29	2850	1370	4300	1479	41,365 08
23000	94795	9455	539	550	10	57	95454	29	5595	3520	31150	7009	123,562 98

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials
County of Gaspé, Province
GRAND RIVER

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.			FISHING MATERIAL.							
	Boats.			Nets.		Seines.					
	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Smelts, lbs.	Salmon, barrels.	Salmon, fresh, lbs.
		$			$		$			
Newport Point	60	1900	120	1620	800					
Newport	100	1850	150	2444	1280	200	300			1000
Anse aux Canards	20	450	35	320	160	20	100			200
Pabos	90	3675	135	1800	675	600	500	3080		7500
Grand River	120	7425	300	3800	1425	200	300			3900
Cape Cove	120	7000	300	4800	2400	250	340			
Percé	221	11050	663	11000	5500	500	240			
Corner of Beach	20	520	20	300	150	60	250			4000
Totals	751	33870	1723	26084	12390	1830	2030	3080		16600
GASPÉ SUB-DIVISION										
Barachois	100	4000	100	1662	1650	280	335	23551		7600
Belle Anse	28	1120	28	950	440	20	20			300
Malbaie	32	1280	32	820	400	56	84			295
Point St. Peter	148	5850	147	3330	1555	80	157			100
Chien Blanc	84	3360	84	1550	750	80	157			
Bois Brûlé	18	650	18	240	180	20	20			
Seal Cove	22	880	22	645	370					426
Douglastown	40	760	40	920	770	80	60			2965
Haldimand	10	300	10	345	305					200
Sandy Beach	18	630	20	1817	1644	22	15			7082
Gaspé, North and South	46	500	106	3916	3000	900	500	51114		17575
Peninsula	11	110	11	1429	1200					5777
Cape aux Os	13	300	14	355	230	20	40			600
Seal Rock	7	80	9	140	96	20	25			
Little Gaspé	10	304	10	473	739					1434
Grande Grève	24	1225	34	1018	220	82	160			1616
St. George's Cove	18	810	17	259	590					122
Indian Cove	22	880	16	360	275	20	32			364
Ship Head	28	790	26	600	386	20	40			
Totals	679	23829	744	20829	14800	1700	1645	74665		46456

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1890.

(Point Macquereau to Barachois of Malbaie).

Kinds of Fish.							Fish Products.				
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Trout, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Cod Oil, gallons.	Fish used as Bait, brls.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.	Value.
											$ cts.
3400	30	200			10		2800	800	20	160	16,810 00
2000	26		500		25	9000	1300	900	1000	170	14,684 00
500			50		2		300	50	20	35	2,605 00
3000			200		10	10000	2300	900	500	250	19,274 00
6500	15	200	200		25	3000	3300	1300	250	520	33,745 00
8000			300		10	28800	4000	1500	1300	410	42,896 00
12000	50	300	50		5	11000	8500	2600	100	400	58,750 00
600	15	100	25		2	6000	320	40	25	30	4,430 50
36000	136	800	1325		89	67800	22820	8090	3215	1975	193,194 50

(Barachois of Malbaie to Cape Gaspé).

2085			20				1900	750		235	13,942 55
490						6528	300	280		70	3,623 36
1067			10				800	320		60	5,407 00
5483							3140	1485		20	25,515 50
1400			16			3648	800	840		180	8,401 76
400			20			10176	200	180		64	3,507 12
440			10			18916	300	220		55	4,825 12
1000			75				800	200		300	6,713 00
100							75	75		25	682 50
117							50	90		60	2,279 40
										150	6,670 70
15							8	4		60	1,464 60
120			12			8108	85	20		80	2,004 96
89			8				60	15		40	594 50
110			13				80	20		22	928 80
755	3		23				560	128		16	3,927 20
254			11				160	50		30	1,343 40
512			4				307	80		40	2,539 60
360	29		18				270	60		35	1,966 00
14797	32		240			47376	9895	4817		1542	96,337 07

RETURN showing the Number and Value of Vessels, Boats and

MAGDALEN RIVER SUB-DIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.			FISHING MATERIAL.						
	Boats.			Nets.		Seines.				
	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Smelts, lbs.	Salmon, barrels.	Salmon, fresh, lbs.
		$			$		$			
Cape des Rosiers	270	3500	260	6500	2600	180	100			
Anse à Grisfonds	165	2950	160	3875	1550	140	150			
Anse à Fougère	6	80	6	100	44					
Fox River	125	3275	125	3000	2200	310	360			
Little River	24	420	24	525	220					
Little Cape	28	465	28	600	300					
Grande Anse	6	60	7	140	55					
Echourie	12	200	12	260	100					
Pointe Jaune	12	170	12	260	100					
Anse à Valeau	13	220	13	275	110					
Grand Etang	28	440	28	750	320	274	84		1	
Pointe Sêche	32	530	32	736	480					
Little Chlorydorme	25	960	24	575	375					
Big Chlorydorme	22	320	18	506	330				2	
Little Cove	19	260	18	460	240					
Frigate Point	21	240	21	500	270					
Grande Vallée	36	605	37	1000	400				1	
Magdalen River	22	230	24	500	150	105	65		7	
Manche D'Epée	12	120	12	240	120					
Gros Mâle	18	180	20	400	200				1	
L'Anse Pleureuse	15	150	16	320	160					
Monts Louis	95	1350	112	1920	1080	80	65			2730
Rivière à Pierre	20	300	24	400	200					
Totals	1026	17005	1033	24842	11604	1089	824		12	2730

Fishing Materials, &c., in the **County of Gaspé**, &c.—*Continued.*

(Cape Gaspé to Rivière à Pierre.)

Kinds of Fish.							Fish Products.				Value.
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Trout, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.	$ cts.
3700		4300	100				2000	800		320	18,910 00
2800			70				1850	250		100	12,995 00
85		200	4				60	290		8	867 00
2850		1400	75		9		2200	850		300	15,285 00
350		2000	15				225	75		25	1,962 50
450		200	20				300	100		40	2,330 00
100		400	5				90	30		10	581 00
220		400	8				170	63		15	1,174 50
255		200	8				200	70		14	1,313 00
320		400	10				200	70		30	1,665 00
1000		1400	8		3		800	270		20	5,007 00
900		1400	6		4		600	200		120	4,840 00
525		2800	3		3		350	120		100	3,142 00
400		2400	3		2		270	90		100	2,547 00
400		200	4		2		270	90		10	1,939 00
500		1200	3		2		350	120		50	2,672 00
850		2000	15	2	1		350	120		120	4,506 00
450		1200	10				250	83		36	2,440 50
200			6				100	33		10	953 50
370			7				260	85		10	1,795 50
300			5				200	75		10	1,452 50
1600		400	25		1		800	275		150	8,428 50
380			10				275	92		15	1,868 00
19005		22500	420	2	27		12170	4251		1613	98,674 50

RETURN showing the Number and Value of Vessels, Boats and

STE. ANNE DES MONTS SUBDIVISION.—

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Smelts, lbs.	Salmon, barrels.	Salmon, fresh.
			$			$			$		$		$			
Claude River					17	500	34	530	233						7	
Marsouis					7	280	15	180	120							
Martin River					5	200	10	160	115						1	
Ste. Anne					50	2000	100	1550	865	256	98					1583
Cape Chatte					20	800	40	450	250	106	60				3	
Totals					99	3780	199	2870	1583	362	158				11	1583
MAGDALEN ISLANDS																
Entry Island					12	360	30	800	400							
Amherst Island	5	171	6500	16	131	4135	320	15900	6225	1325	3550					
Grindstone do	9	370	12900	48	139	4190	418	280	140	380	790					
Allright do	7	300	9000	51	30	1300	146	3850	1925	120	400					
Wolf do					33	815	80	800	300							
Grand Entry Island					22	660	52	160	80			1	400			
Grosse do					14	420	36									
Bryon do					32	960	82	300	150							
Totals	21	841	28400	115	413	12840	1164	19090	9220	1825	4740	1	400			
TOTAL FOR THE																
Subdivisions—																
Grand River					751	33870	1723	26084	12390	1830	2030			3080		16600
Caspé					679	23829	744	20829	14800	1700	1645			74665		46456
Magdalen River					1026	17005	1033	24842	11604	1089	824				12	2730
Ste. Anne					99	3780	199	2870	1583	362	158				11	1583
Magdalen Islands	21	841	28400	115	413	12840	1164	19090	9220	1825	4740	1	400			
Totals	21	841	28400	115	2968	91324	4863	93715	49597	6806	9397	1	400	77745	23	67369

Fishing Materials, &c., in the **County of Gaspé.**—*Concluded.*

(River à Pierre to Cap Chatte.)

Kinds of Fish.									Fish Products.						Fish used for Local Consumption, barrels.	Value.
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Mackerel, barrels.	Trout, barrels.	Cod Tongues and Sounds, lbs.	Lobster, in cans, lbs.	Seal Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Whale Oil, galls.	Cod Oil, galls.	Fish used as bait, barrels.	Fish used as manure, barrels.		
																$ cts.
800	....	160	60	....	..	...	.....	.....	.....	.....	....	400	30	200	150	4,473 00
410	...	.....	20	....	2	..	....	....	.....	.. ..	....	205	28	158	42	2,111 00
800	....	460	25	...	1	1	.. ..	.....	.....	.....	....	400	21	85	30	3,736 00
1850	...	3000	175	...	14	....	... ..	.... ..	. ...	65	190	925	75	80	321	10,765 10
595	....	2200	80	....	6	..	.....	.....	.....	90	....	297	50	....	200	4,057 80
4455	....	5820	360	....	23	1	.....	.....	.....	155	190	2227	204	523	743	25,142 90
SUBDIVISION.																
120	20	.....	50	200	..	....	.....	50	250	....	....	100	50	.....	40	4,185 00
4430	540	3360	248	1042	..	21	57600	3808	29250	....	....	3460	14065	700	675	84,999 50
2950	430	3000	....	1652	..	10	93648	6070	24915	....	....	1590	2180	.....	750	72,879 76
810	30	.....	50	680	..	....	16320	1500	7300	...	...	385	480	80	610	23,492 40
100	15	.....	....	480	.	....	6480	....	.....	. .....	....	60	300	.....	100	9,311 60
120	30	.....	....	240	..	....	153600	.....	... ..	....	....	80	800	60	220	24,774 00
45	5	....	....	196	..	....	.....	.....	.....	....	....	20	150	40	100	3,793 00
450	60	.....	....	528	..	....	13440	200	1000	....	....	260	350	.. ...	50	13,001 80
9025	1130	6360	348	5018	..	31	341088	11628	62715	....	....	5955	18375	880	2545	236,437 06
COUNTY OF GASPÉ.																
36000	136	800	1325	....	..	89	67800	. ....	....	....	....	22820	8090	3215	1975	193,194 50
14797	32	.....	240	....	..	....	47376	.....	...	....	...	9895	4817	.....	1542	96,337 07
19005	....	22500	420	....	2	27	.....	.....	.....	.....	....	12170	4251	.....	1613	98,674 50
4455	....	5820	360	....	23	1	.....	.....	.....	155	190	2227	204	523	743	25,142 90
9025	1130	6360	348	5018	..	31	341088	11628	62715	...	....	5955	18375	880	2545	236,437 06
83282	1298	35480	2693	5018	25	148	456264	11628	62715	155	190	53067	35737	4618	8418	649,786 03

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials, **County of Saguenay,** Province

POINT DES MONTS SUB-DIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap-Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		
Manicouagan													
Godbout													
Point des Monts													
Trinity Bay													
Cariboo Islets	5	90	2500	11	102	2115	130	5200	2600	620	800	1	300
Egg Island													
English Point													
Pentecost													
Cailles Rouges													

MOISIE SUB-DIVISION

Jambons	1	14	300	4	15	839	26	1295	990	73	112		
Ste. Marguerite					2	80	4	629	600	50	30		
Seven Islands	3	75	1400	12	28	1780	50	2525	2300	670	600		
Moisie	1	54	300	4	20	1800	70	5475	4700	547	400		
Pigou					4	150	8	258	250	425	400		
Totals	5	143	2000	20	69	4649	158	10182	8840	1765	1542		

MINGAN SUB-DIVISION

Chaloupe					5	200	7	60	35	30	70		
Little River					4	160	8	60	35	30	70		
Sheldrake					37	1850	75	200	200	110	380	3	380
Thunder River					52	2600	112	155	155	210	840		
Dock					24	1200	48	100	100	100	100		
Rich Point					20	1000	50	75	75	50	100		
Jupitagan					4	175	4	120	120	50	100		
Magpie					97	4850	234	500	500	150	300		
St. John's River					56	2800	130	1500	1500	200	400		
Long Point					20	1000	45	200	200	150	300		
Mingan					3	120	2	150	100				
Esquimaux Point	22	550	17600	132	102	1040	100	2000	750	500	500		
La Corneille					2	60	3	200	175				
Piashter Bay					2	60	2	150	125				
Totals	22	550	17600	132	428	17115	820	5470	4070	1580	3160	3	380

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1890.

(Manicouagan to Jambons.)

Kinds of Fish.											Fish Products.						Value.
Salmon, brls.	Salmon, fresh.	Cod, cwt.	Halibut, lbs.	Herring, brls.	Herring, smoked, boxes	Mackerel, brls.	Trout, brls.	Cod Tongues and Sounds, brls.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.	Fish used for Local Consumption, brls.	
																	$ cts.
..	61465	4761	14200	469	....	5	1	2	314	3	1570	200	2380	180	....	160	37,637 00
(Jambons to Pigou.)																	
..	....	569	2865	215	28	..	....	9	72	43	355	175	400	56	11	15	4,328 00
1	5328	130	300	10	....	..	3	1	4	....	25	....	85	13	2	5	1,800 10
2	16688	1989	15925	247	279	....	1	9	130	29	457	370	1000	200	5	60	15,624 15
3	131819	967	3321	....	....	....	6	6	58	....	165	....	500	96	....	75	31,499 90
..	....	200	430	7	8	..	....	2	4	....	21	....	100	20	....	10	1,015 40
6	153835	3855	22841	479	315	....	10	27	268	72	1023	545	2085	385	18	165	54,267 55
(Pigou to Watsheeshoo.)																	
..	....	120	430	....	....	....	....	....	....	....	....	....	215	40	....	10	709 00
..	....	120	450	....	....	....	....	....	....	....	....	....	225	40	....	12	723 00
7	....	2800	1000	....	....	....	....	....	....	....	....	....	1400	200	....	100	12,672 00
..	....	1500	500	....	....	....	....	....	....	....	....	....	750	250	....	156	7,349 00
..	....	1150	....	....	....	....	....	....	....	....	....	....	575	115	....	18	5,074 50
..	....	1000	....	....	....	....	....	....	....	....	....	....	500	100	....	17	4,418 00
13	....	200	....	....	....	....	....	....	....	....	....	....	100	20	....	5	1,098 00
15	....	4850	....	....	....	....	....	....	....	....	....	....	2425	500	....	220	22,240 00
..	52000	3360	....	....	....	....	....	....	....	....	....	....	1680	400	....	200	25,912 00
..	....	1000	....	....	....	....	....	....	....	....	....	....	500	150	....	43	4,597 00
15	....	....	....	....	....	....	....	....	100	....	300	....	....	....	....	2	468 00
..	....	1500	....	900	....	....	....	....	2000	....	6000	....	750	300	....	400	16,350 00
6	....	....	....	....	....	....	....	....	25	....	100	....	....	....	....	2	169 00
12	....	....	....	....	....	....	....	....	30	....	120	....	....	....	....	3	282 00
68	52000	17600	2380	900	....	....	....	....	2155	....	6520	....	9120	2115	....	1188	102,061 50

RETURN showing the Number and Value of Vessels, Boats,

NATASHQUAN SUB-DIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.			
	Vessels.				Boats.			Nets.		Seines.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.
			$			$			$		$
Nabissippi					2	100	4	500	200		
Agwanus	1	18	400	7	7	250	14	580	230		
Washtawooka					1	50	2	60	30	24	30
Natashquan Harbour					33	1650	66	2000	600	120	200
Natashquan Village	5	106	2000	35	18	720	40	1330	500	75	120
Natashquan River					3	140	6	3200	1050	25	40
Totals	6	124	2400	42	64	2910	132	7670	2610	244	390
WASHEECOOTAI SUB-DIVISION											
Kegashka					5	150	4	100	100	70	30
Mistassini					2	77	2	60	60	48	18
Curlew Point and Musquarro					5	80	4	140	140		
Washeecootai River					4	66	3	400	400	40	20
Romaine East					4	150	3	200	200	30	30
Old Romaine	1	29	700	8	2	80	8	35	30	35	35
Coacoachoo					4	68	3	100	50		
Totals	1	29	700	8	26	671	27	1035	980	228	133

Nets, &c., in the **County of Saguenay**, &c.—*Continued.*

(Watsheeshoo to English Point.)

Kinds of Fish.									Fish Products.					Value.
Salmon, barrels.	Salmon, fresh, lbs.	Cod, cwt.	Halibut, lbs.	Herring, barrels	Trout, barrels.	Cod Tongues and Sounds, barrels.	Lobsters in Cans, lbs.	Seal Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used for Local Consumption, barrels.	
														$ cts.
4	2670	45			1						30	15	20	902 50
10	7920	270	600		2	1		30	125		150	50	35	3,269 00
2½	800	70									50	10	4	531 00
	140	900	1800	10		2				4	750	300	50	4,819 60
	10310	800	2400	82		3		465	1888		600	200	90	7,980 20
	29150	50		30	3			7	30		20	15	20	6,309 50
16½	50990	2135	4800	122	6	6		502	2043	4	1600	590	219	23,811 80

(English Point to Coacoachoo.)

10		188		1				7	19		94	13	6	1,011 70
5		4		3				10	21		2	3	2	139 70
3					2½								3	85 00
8													1	132 00
8					2								10	188 00
				11			4500						2	592 00
2					½			10	21				2	63 40
36		192		15	5		4500	27	61		96	16	26	2,211 80

RETURN showing the Number and Value of Vessels, Boats,
ST. AUGUSTIN SUB-DIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		$
Wolf Bay					3	150	4	150	100	40	28		
Etamamu					1	20	2	200	180				
Point à Mourier					2	125	2	150	120				
Harrington					26	1300	28	200	150	500	700	1	200
Little Meccatina					5	40	7	80	80	50	40		
Whale Head					20	210	23	760	700	240	200	1	300
Mutton Bay					31	1308	37	360	250	600	500	1	180
Grand Meccatina					3	100	6	100	100	100	95	1	250
La Tabatière					8	200	11	611	500	200	140		
Grand Meccatina Island					3	100	2	150	100	100	75		
Kecapoe					4	120	6	410	300				
Poacachoo					2	100	3	200	200				
Rigolet					2	60	2	340	180				
St. Augustin River					2	60	2	137	125				
St. Augustin Bay					3	75	3	200	100				
Caucasippi					2	42	2	660	480				
Sandy Island					2	150	4	300	200				
Point à Giroux					2	70	1	120	96				
L'Anse au Portage					2	70	1	180	100				
Canso					2	50	1	150	100				
Chicatica					3	150	6	170	120	100	50		
Totals					126	4500	153	5628	4281	1930	1828	4	930

Nets, &c., in the **County of Saguenay**, &c.—*Continued.*

(Coacoachoo to Chicatica).

Kinds of Fish.									Fish Products.				Fish used for Local Consumption, brls.	Value.
Salmon, brls.	Salmon, fresh, lbs.	Salmon, in cans, lbs.	Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.		
														$ cts.
½			135							100	20		5	638 00
12													3	204 00
½			32					60	180	20	7		2	294 50
2			1820							1200	340		60	8,542 00
1			145							100	15		10	698 50
6			1060					135	405	750	160		30	5,293 00
12			2140					75	225	1420	214		80	10,126 00
1			345			25		18	54	275	34		6	1,720 60
13			177			50		400	1200	115	17		20	2,147 50
			27					23	69	18	10		3	192 80
7			30				5	43	129	20	10		12	447 60
7			25					25	75	16	10		3	300 40
1							3						2	54 00
3							5						3	110 00
1							5						4	82 00
14							7						7	322 00
1			27				9	40	120	17	10		3	335 80
6			125							90	20		3	674 00
6			66					30	90	40	15		3	476 50
2			240							150	25		8	1,121 50
96			6394			75	34	849	2547	4331	907		267	33,780 70

RETURN showing the Number and Value of Vessels, Boats,
BONNE ESPÉRANCE SUB-DIVISION

Name of District.	Vessels and Boats Employed in Fishing.							Fishing Material.					
	Vessels.				Boats.			Nets.		Seines.		Trap-Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		$
Bull Cove					5	110	3	300	250				
Rocky Bay					9	210	14	200	200	112	80		
Lydias' Cove					3	100	4	200	200				
Dog Islands					5	140	3	1200	700				
Pêche à Lizotte					2	40	2	100	100				
Old Fort Island					15	500	30	100	50				
St. Paul's River					5	110	6	1200	600				
Bonne Espérance	1	40	1500	8	70	4800	150	400	400	1525	2180	2	400
Burnt Island					10	600	19			312	300		
Pigeon Island					10	700	20	300	300	512	590		
Stick Point					7	300	10	600	600	100	100		
Salmon Bay					60	3400	140	200	200	1240	1100		
Little Fishery					3	90	3	100	100	200	100		
Five Leagues					4	140	6	150	150	110	70		
Middle Bay					40	1700	60	1000	850	1020	1090	2	400
Belles Amours					3	80	3	100	50				
Bradore Bay					30	1200	40	500	500	820	880	2	400
L'Anse des Dunes					10	400	12	1000	500				
Long Point					10	300	8	1000	400	100	40	1	200
Gulch Cove					15	500	20	300	300	100	40	1	200
Green Island					40	1800	60	600	600	1600	1910	1	200
Blancs Sablons					10	320	8	1000	600	100	50		
Totals	1	40	1500	8	366	17540	621	10550	8650	7851	8530	9	1800

Nets, &c., in the **County of Saguenay,** &c.—*Continued.*

(Chicatica to Blancs Sablons.)

Kinds of Fish.									Fish Products.				Fish used for Local Consumption, barrels.	Value.
Salmon, barrels.	Salmon, fresh, lbs.	Salmon, in cans, lbs.	Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Trout, barrels.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.		
														$ cts.
12			80				4	10	50	50	20		4	648 00
10			400				4	10	50	250	100		12	2,128 00
12			50				4	55	275	40	30		4	674 00
3			40				2	105	525	25	20		4	599 00
4			10				4			7	10		4	177 80
			600				10	45	225	400	200		50	3,295 00
55							10	10	50				4	1,026 00
6			6000							4000	1000		300	28,396 00
			1200							700	300		30	5,650 00
8			600							420	200		30	3,116 00
10			200				4			120	50		20	1,203 00
8			5000							3500	1000		300	24,228 00
10			50					20	100	40	25		10	513 50
5			100			25		50	250	75	50		20	915 00
			2400			400				1500	600		150	13,300 00
			20							12	20		10	154 80
			2500			500		100	500	1600	600		120	14,320 00
			100					100	500	60	30		30	889 00
			300					300	1500	180	100		20	2,402 00
			1500					100	500	1020	300		10	7,198 00
			1500					50	250	1100	400		100	7,590 00
			1000					100	500	650	300		10	5,850 00
143			23650			925	42	1055	5275	15749	5355		1242	124,273 10

RETURN showing the Number and Value of Vessels, Boats,

ISLAND OF ANTICOSTI

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								
	Vessels.				Boats.			Nets.		Seines.		Trap-Nets.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Salmon, barrels.	Salmon, fresh, lbs.	
			$			$			$		$		$			
Fox Bay					15	850	33	800	400	100	100			2		
Salmon Bay					15	600	25	600	350					10		
Mauzerolle					10	500	14	400	200							
Potato River					2	60	2	40	40					3		
Wreck Cove					4	110	5	40	40							
Capelin Bay					6	180	6	120	100					2		
Macdonald's Cove					20	600	28	200	200	120	100			3		
Raven's Head					4	100	5	100	75							
Oil River					2	50	2	75	50					2		
English Bay					24	720	26	750	500	100	50					
Strawberry Cove					20	400	32	500	300							
Ellis Bay					1	20	1	100	50							
Becscie River					1	20	1	75	50					2		
Jupiter River					2	75	2	300	300					12		
Shallop Creek					3	100	2	300	300					10		
Dauphine River					1	20	1	100	75					8		
Totals					130	4405	185	4500	3030	320	250			54		

RECAPITULATION FOR THE

SUB-DIVISIONS.															
Godbout	5	90	2500	11	102	2115	130	5200	2600	620	800	1	300		61465
Moisie	5	143	2000	20	69	4649	158	10182	8840	1765	1542			6	153835
Mingan	22	550	17600	132	428	17115	820	5470	4070	1580	3160	3	380	68	52000
Natashquan	6	124	2400	42	64	2910	132	7670	2610	244	390			16½	50990
Washeecootai	1	29	700	8	26	671	27	1035	980	228	133			36	
St. Augustin					126	4500	153	5628	4281	1930	1828	4	930	96	
Bonne Esperance	1	40	1500	8	366	17540	621	10550	8650	7851	8530	9	1800	143	
Anticosti					130	4405	185	4500	3030	320	250			54	
Totals	40	976	26700	221	1311	53905	2226	50235	35061	14538	16633	17	3410	419½	318290

Nets, &c., in the **County of Saguenay**, &c.—*Continued.*

SUB-DIVISION.

Kinds of Fish.										Fish Products.								Value.
Cod, cwt.	Halibut, lbs.	Herring, barrels.	Herrings, smoked, boxes.	Mackerel, barrels.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, brls.	Fish used for Local Consumption, brls.		
																		$ cts.
250	1200	20	....	....	....	....	....	40800	15	....	45	....	175	250	10	35		6,751 00
60	....	10	....	....	....	....	....	19200	120	....	360	....	40	200	10	10		3,369 00
300	900	25	....	....	....	....	....	....	....	....	....	....	190	40	....	4		1,542 00
60	300	6	....	....	....	....	....	....	....	....	....	....	40	10	....	3		385 00
120	300	10	....	....	....	....	....	....	....	....	....	....	75	15	....	2		610 50
180	400	15	....	....	....	....	....	....	....	....	....	....	100	18	....	6		943 00
720	1500	60	....	....	....	....	....	....	....	....	....	....	450	72	....	20		3,686 00
120	....	10	....	....	....	....	....	....	....	....	....	....	75	12	....	6		592 00
50	....	....	....	....	2	....	....	....	....	....	....	....	30	10	....	3		291 00
250	2300	96	....	....	....	....	....	....	25	....	75	....	175	30	80	40		1,984 00
275	5400	108	....	....	....	....	....	....	30	....	90	....	180	30	50	54		2,496 00
....	....	....	....	....	....	15	....	....	....	....	....	....	....	....	....	3		162 00
....	....	....	....	....	3	....	....	....	15	....	45	....	....	....	....	2		103 00
....	....	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....		292 00
....	....	....	....	....	5	....	....	....	....	....	....	....	....	....	....	3		222 00
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....		128 00
2385	12300	360	....	....	20	15	....	60000	205	....	615	....	1530	687	150	191		23,556 50

COUNTY OF SAGUENAY.

4761	14200	469	....	5	1	....	2	....	314	3	1570	200	2380	180	....	160		37,637 00
3855	22841	479	315	....	10	....	27	....	268	72	1023	545	2085	385	18	165		54,267 55
17600	2380	900	....	....	....	....	....	....	2155	....	6520	....	9120	2115	....	1188		102,061 50
2135	4800	122	....	....	6	....	6	....	502	....	2043	4	1600	590	....	219		23,811 80
192	....	15	....	....	5	....	....	4500	27	....	61	....	96	16	....	26		2,211 80
6394	....	75	....	....	34	....	....	....	849	....	2547	....	4331	907	....	267		33,780 70
23650	....	1125	....	....	42	....	....	....	1055	....	5275	....	15749	5355	....	1242		124,273 10
2385	12300	360	....	....	20	15	....	60000	205	....	615	....	1530	687	150	191		23,556 50
60972	56521	3545	315	5	118	15	35	64500	5375	75	19654	749	36891	10235	168	3458		401,599 95

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials, the Number of Men employed, with the Kinds and Quantities of Fish, &c., in the **Gulf Division**, Province of Quebec, for the Year 1890.

TOTALS FOR THE GULF DIVISION.

NAME OF COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.				
	Vessels.				Boats.			Nets.		Seines.		Trap-Nets.						
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Smelts, lbs.	Salmon, brls.	Salmon, fresh, lbs.	Cod, cwt.	Haddock, cwt.
			$			$			$		$		$					
Bonaventure	6	280	6,000	28	911	20,964	1,119	43,388	25,530	3,940	2,725	10	250	23,000	.....	94,795	9,455	.....
Gaspé	21	841	28,400	115	2,968	91,324	4,863	93,715	49,597	6,806	9,397	1	400	77,745	23	67,369	83,282	1,298
Saguenay	40	976	26,700	221	1,311	53,905	2,226	50,235	35,061	14,538	16,633	17	3,410	.....	419½	318,290	60,972	.....
Totals	67	2,097	61,100	364	5,190	166,193	8,208	187,338	110,188	25,284	28,755	28	4,060	100,745	442½	480,454	153,709	1,298

NAME OF COUNTIES.	KINDS OF FISH.									FISH PRODUCTS.									FISH USED FOR LOCAL CONSUMPTION, BRLS.	VALUE.
	Halibut, lbs.	Herring, brls.	Herring, smoked, boxes.	Mackerel, brls.	Trout, brls.	Eels, brls.	Cod Tongues and Sounds, brls.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, lbs.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Whale Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.			
																				$ cts.
Bonaventure	.....	539	550	.....	10	57	...	95,454	29	.....	.....	.....	.....	...	5,595	3,520	31,150		7,009	123,562 98
Gaspé	35,480	2,693	...	5,018	25	...	148	456,264	....	11,628	....	62,715	155	190	53,067	35,737	4,618		8,418	649,786 03
Saguenay	56,521	3,545	315	5	118	15	35	64,500	....	5,375	75	19,654	749	....	36,891	10,235	168		3,458	401,599 95
Totals	92,001	6,777	865	5,023	153	72	183	616,218	29	17,003	75	82,369	904	190	95,553	49,492	35,936		18,885	1,174,948 96

RECAPITULATION.

STATEMENT of the Yield and Value of the Fisheries of the **Gulf Division**, Province of Quebec, for the Year 1890.

Kinds of Fish and Oil.		Quantities.	Price.	Value.
			$ cts.	$ cts.
Smelts, fresh	Lbs.	100,745	0 05	5,037 25
Salmon, salt	Brls.	442½	16 00	7,080 00
do fresh, in ice	Lbs.	480,454	0 20	96 090 80
Cod, salt, dry	Cwt.	153,709	4 00	614,836 00
Haddock, salt, dry	"	1,298	4 00	5,192 00
Halibut	Lbs.	92,001	0 10	9,200 10
Herring, salt	Brls.	6,777	4 00	27,108 00
do smoked	Boxes.	865	0 25	216 25
Mackerel, salt	Brls.	5,023	15 00	75,345 00
Trout, salt	"	153	10 00	1,530 00
Eels, salt	"	72	10 00	720 00
Cod tongues and sounds, salt	"	183	10 00	1,830 00
Lobsters, cans, one lb	Lbs.	616,218	0 12	73,946 16
Coarse and mixed fish	Brls.	29	3 00	87 00
Seal skins	Pieces.	17,003	1 00	17,003 00
Porpoise skins	"	75	5 00	375 00
Seal oil	Galls.	82,369	0 40	32,947 60
Porpoise oil	"	904	0 40	361 60
Whale oil	"	190	0 40	76 00
Cod oil	"	95,553	0 40	38,221 20
Fish for bait	Brls.	49,492	1 50	74,238 00
do manure	"	35,936	0 50	17,968 00
do local use	"	18,885	4 00	75,540 00
Total Value, 1890				1,174,948 96
do 1889				1,442,616 05
Decrease for 1890				267,667 09

STATEMENT of Lobster Canneries in the **Gulf Division**, for the Season of 1890.

COUNTY OF BONAVENTURE.

No.	Locality.	Number of Traps.	Value of Traps Boats, &c.	Value of Factory and Machinery.	Total Value.
		$	$	$	$
2	Bonaventure Subdivision	1,600	1,500	900	2,400
3	Port Daniel do	2,100	1,600	2,500	4,100
5	Totals	3,700	3,100	3,400	6,500

COUNTY OF GASPÉ.

5	Grand River Subdivision	3,500	3,500	3,600	7,100
5	Gaspé do	3,000	3,000	3,600	6,600
15	Magdalen Islands do	25,000	25,000	15,000	40,000
25	Totals	31,500	31,500	22,200	53,700

COUNTY OF SAGUENAY.

1	Washeecootai Subdivision	400	400	400	800
2	Anticosti do	3,000	3,200	2,000	5,200
3	Totals	3,400	3,600	2,400	6,000

TOTAL OF LOBSTER CANNERIES IN GULF DIVISION.

5	County Bonaventure	3,700	3,100	3,400	6,500
25	do Gaspé	31,500	31,500	22,200	53,700
3	do Saguenay	3,400	3,600	2,400	6,000
33	Totals	38,600	38,200	28,000	66,200

STATEMENT of the Value of Material Employed in Fisheries in the **Gulf Division**, Season of 1890.

Description.	Value.
	$
Vessels, 67, of 2,097 tons	61,100
Boats and flats, 5,190	166,193
Nets, 187,338 fathoms	110,188
Seines, 25,284 do	28,755
Trap nets and bag nets, 28	4,060
33 lobster factories and plant, 38,600 traps	66,200
Total	436,496

STATEMENT of Men Employed in Fisheries of the **Gulf Division**, Season of 1890.

Description.	Number.
Sailors	364
Fishermen and shoremen	8,208
Total	8,572

SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF QUEBEC, EXCLUSIVE OF THE GULF DIVISION, FOR THE YEAR 1890.

SOUTH SHORE, RIVER ST. LAWRENCE, FROM CAPE CHATTE TO POINT LÉVIS.

Overseer J. Joncas has charge of the south side of the St. Lawrence, from Cape Chatte to River Blanche, including Matane River. He reports a further decline in the yield of salmon, the catch having only amounted to 2,970 lbs. this season, or 15 per cent. less than last year. This is chiefly attributed to the water in Matane River, which, for the past two seasons, kept so low that salmon could not go up the fishway. Mr. Joncas thinks that the fishway is not properly located, and that this is why it fails to give the satisfactory results expected from it. Only 154 porpoises were killed, against 400 in 1889. The laws relative to sawdust and mill rubbish were strictly enforced in this division, and several fines were imposed upon the mill-owners. The total value of the fisheries in this district is reckoned at $7,035.

Overseer L. S. E. Grondin, whose division extends from Rivière Blanche to Rimouski, reports an increase in the catch of herring but a falling off in that of salmon. This was caused by the strong gales which prevailed during the first part of the fishing season. Some fishermen, who were in the habit of catching from thirty to forty salmon, only caught a couple this season. The total value of the fisheries of this division amounts to $36,000.

Overseer H. Martin has charge of that part of the coast extending from Rimouski wharf to Pointe à la Loupe, including Rimouski River. He reports a shortage in the the catch of salmon, owing to the destruction of a large number of nets by storms, and which were not repaired. The South-West Bic River is reported to be very much neglected by its lessee, especially at spawning time. Shad has almost disappeared from this coast, and no apparent reason can be ascribed for it. Herring and sardines were abundant. The fishery regulations were generally well observed. No nets were allowed at the Government wharf, and the brush weirs at Barnaby Island were kept in proper check, so as to give due protection to the breeding fish in Rimouski River. The total value of the fisheries of this division is given at $15,000.

Overseer Napoléon Levesque reports a falling off in the salmon and shad fisheries on that part of the River St. Lawrence fronting on the County of Temiscouata, but an improvement in all other yields of fish. The enormous catch of over 12,000 brls. of small and coarse fish swells the value of the fisheries in this division to $56,000. Forty-two seals and twenty porpoises were killed opposite Green Island and Cacouna. The five fish-ways built in this division are said to be in good order.

Overseer Xavier Pelletier, who has charge of the fisheries fronting the County of Kamouraska, reports a falling off in the yield of nearly every kind of fish, but most particularly in that of shad, which hardly amounts to 6,000 lbs.; while the catch of 1889 was more than double that quantity, although it was considered a poor season. One hundred and forty-one porpoises were killed in the fisheries of River Ouelle and St. Anne. The total yield of the fisheries of this district amounts to $20,000.

Overseer Eugene Pelletier's division extends from St. Anne to Lévis. He writes to say, that with the exception of shad, which failed in his district, as well as everywhere else on the south shore, fishing was satisfactory. The absence of shad was compensated for by a bigger catch of eels and whitefish. Seining for smelts is now almost entirely stamped out; but this Overseer complains of another evil, the destruction of millions of young and immature fish, which are yearly killed in the brush weirs. He is of opinion that were parties offering young fish for sale at ridiculously low prices made liable to fines, it would greatly aid the saving of fish life, and benefit both fishermen and consumers. The total value of the fisheries of this division exceeds $30,000, being an increase of 50 per cent. over that of last year.

NORTH SHORE RIVER ST. LAWRENCE, FROM QUEBEC TO BERSIMIS.

QUEBEC AND MONTMORENCY DIVISION.

Overseer L. P. Huot's division comprises the shores of the Island of Orleans, and that part of the north coast of the River St. Lawrence extending from St. Joachim to Chateau-Richer. As anticipated by this officer, nets which have been too close to one another have begun to thin out. Seventeen stands and eight brush weirs were abandoned last season, fishermen seeking other employment. This accounts, to a certain extent, for the apparent falling off in the fisheries of this division, which can only be ascribed to a less vigorous prosecution of this pursuit. The overseer states that, with the exception of shad, which was a total failure, the other kinds of fish were as abundant as usual, a decided improvement being especially noticeable in the yield of salmon. The total catch of this division, valued at $16,392, is disposed of in Quebec markets,

Overseer U. Bhereur has charge of that portion of the north shore of the River Lawrence extending from Rivière du Gouffre to Rivière aux Canards, including Isle aux Coudres. The yield of salmon shows a slight improvement, especially at Malbaie and St. Fidèle. There were only 31 porpoises killed in the fisheries of Isle aux Coudres, against 146 in 1889. The total value of the fisheries of this division amounts to nearly $23,000, including the estimated yield of the inland waters of the County of Charlevoix.

Overseer L. N. Catellier, who attends to the Saguenay Division, from Rivière aux Canards to Bersimis, states that although the catch of salmon in 1889 was considered a good one, that of last season exceeds it by 60 per cent. Carelessness on the part of some fishermen to properly secure their nets resulted in heavy loss instead of large catches. It now seems an established fact that the best hauls were made during the prevalence of strong north-easterly gales. There were 980 salmon caught in five weeks in the Department's net at Point Rouge, 325 of which were kept for the hatchery, and the remainder liberated alive. The several fishing guardians and anglers agree in stating that the rivers are well stocked with breeding fish. Never before were they noticed in such large numbers in St. Margaret River. The fishway on Rivière à Mars needs repairs. This will be attended to as soon as navigation opens. The total value of the fisheries of this division is estimated at $21,286.

FROM QUEBEC TO UPPER OTTAWA.

SHERBROOKE AND MEGANTIC DIVISIONS.

Overseer P. W. Nagle attends to the inland waters of the County of Stanstead. He reports a slight falling off in the catch of his division, as compared with the yield of the previous year. The staple fish is trout, of which 12,000 lbs. are returned, the whole being used for local consumption. No violations of the law came to this Overseer's notice, the close seasons being well observed. The fishways were kept in good repair, and no obstructions at present prevent the gravid fish from reaching their spawning grounds.

Overseer Joel Shurtleff, who has charge of the waters of the County of Compton, also reports a decrease in the fisheries of his district, which he ascribes to the fact that sawdust is still allowed to drift into the streams and to pollute them. There was less poaching last season than formerly.

Overseer L. A. Darche, whose division comprises the waters of the counties of Wolfe and Richmond, reports the yield as being equal to that of 1889. The principal kinds of fish caught are trout and bass, of which over 16,000 lbs. of each were caught, besides 18,000 lbs. of pickerel. The sawdust nuisance is loudly complained of. The four fish-ways in this division were kept in efficient order during the season.

Overseer J. B. McDonald, who has charge of Lake Megantic, writes that trout fishing was not so good as last year, but that bass fishing was better. No further trouble is experienced regarding sawdust in this division, the several mill-owners having provided their mills with the necessary furnaces to immediately consume the sawdust and rubbish. It would be advisable that the close season for lunge or lake trout be not later than the 15th September, as by the 1st October, when the present close season begins, these fish have mostly done spawning in Lake Megantic.

MAGOG AND BROME DIVISION.

Overseer N. A. Beach, who attends to the whole Lake Memphremagog, writes that fish are increasing, especially bass and whitefish. For want of sufficient assistance, some trout fishing occurred during the close season, which this officer was unable to prevent. He suggests that parties going upon the spawning beds at night with lights be liable to fine.

Overseer W. G. Greene, who replaced T. Marchessault, resigned, is charged with the guardianship of Brome Lake. He reports black bass, whitefish and pickerel as the principal kinds of fish frequenting this lake. Whitefish are caught through the ice. Bass fishing was good, especially during the month of September.

MISSISQUOI BAY DIVISION.

Overseer P. E. Luke reports an increase in the catch of every kind of fish at Missisquoi Bay. No violation of the law came to his notice, and the various close seasons were well observed. Only one fish-way was kept open in the lower dam on Pike River. The mill on the other dam has changed owners, and a fish-way will be built there next summer, as well as on two other dams further above. The value of the fisheries of this division is given at about $5,000. Most of the fish are shipped fresh to the States.

IBERVILLE DIVISION.

Overseer J. B. Chevalier's division includes the Richelieu River, from Lake Champlain to St. John's. He reports a slight decline in the yield of bass and pickerel, due to high water in the river during the season. Fishing with night lines was good. The cath of eels amounted 41,540 lbs. These are the staple fish of this district, and are mostly all exported to the United States. The total value of the fisheries of this division exceeds $5,000.

Overseer J. O. Dion has charge of the lower portion of the Richelieu River, down to Sorel. He reports no improvement in the condition of the fisheries of this division, and states that he cannot hope for any, so long as the fish-pass at St. Ours

is not properly arranged. He is under the impression that the ashes thrown overboard by steamers, as well as the chemicals escaping from manufactures, contribute to the destruction of fish life by polluting the water.

CHATEAUGUAY DIVISION.

Overseer J. Laberge, who attends to this division, reports a slight decrease in the yield of nearly every kind of fish, excepting maskinongé. The returns give 75,000 lbs. of sturgeon, 50,000 lbs. pike, 30,000 lbs. eels, over 40,000 lbs. of bass and pickerel, valued in all at $19,500. Mr. Laberge again urges the prohibition of fishing of any kind during the spring close season, from 15th April to 15th June. The proximity of the Montreal markets is of great convenience and value to the fishermen of these districts, being easy of access, and enabling the men to get remunerative prices for their fish.

BEAUHARNOIS DIVISION.

Overseer John Kelly's division comprises that part of Lake St. Francis fronting on the counties of Beauharnois and Huntington. He reports a falling off in the catch of bass, pickerel and maskinongé occasioned by excessive seining in the spring time, when such practices are apt to destroy young fish, and recommends the total prohibition of seines and gill-nets for a term of years, in order to allow all kinds of fish a chance to recover their former abundance. The enforcement of the law regarding sawdust has already produced beneficial effects in the Chateauguay River, and given great satisfaction to settlers on the banks. The total value of the fisheries of this division is estimated at $11,000, being a decrease of 25 per cent. as compared with 1889.

LAPRAIRIE AND VERCHÈRES DIVISION.

Overseer John Morris has charge of the above divisions, which comprise the south side of the River St. Lawrence fronting on the counties of Laprairie, Chambly and Verchères. Shad fishing was a complete failure. Eels appear to be the staple fish of this division; but although the returns show a yield of 400,000 lbs., there is still a shortage as compared with last year's catch. Bass were plentiful before the close season began, but after it was over, only a few were taken. Pickerel were not so abundant as last year. The fishery laws were generally well observed, and few violations occurred. The total value of the fisheries of this division exceeds $40,000.

THREE RIVERS DIVISION.

Overseer Joseph Lambert, of Three Rivers, whose division comprises that part of the River St. Lawrence fronting on the County of St. Maurice, reports a falling off in shad and sturgeon, but an increase in eels, pike and tom-cods. The yield of the latter fish is given at 50,000 bushels, being an increase of 65 per cent. over 1889. This item makes up for shortages in other kinds of fish, and brings up the total value of this division to $51,560.

BERTHIER AND MASKINONGÉ DIVISION.

Overseer S. A. Grant has charge of that part of the River St. Lawrence fronting on the counties of Maskinongé and Berthier. He reports the season's operation as having been quite unsatisfactory. He issued 62 licenses, but the value of the whole catch hardly exceeds $3,000, a decline of over 40 per cent.

TERREBONNE DIVISION.

Overseer Joseph Lauzon, who attends to the Rivers Jesus and des Prairies, reports an improvement in the general yield of the fisheries of his division, with the exception of shad, which failed there, as everywhere else. No violation of the law came to his knowledge. Few strangers were noticed last season in this district.

Overseers Cloutier and Filiatrault, who have charge of the inland waters of the County of Terrebonne, return a larger quantity of trout than in 1889. The former

officer complains of sawdust being thrown in the streams. The total value of fish caught in this division is set down at $6,581, nearly all used for local consumption.

LOWER OTTAWA DIVISION.

Overseer R. W. Jones, who looks after the north side of the Ottawa River, from Oka to Carillon, reports a general decrease in the yield of last season. This, he says, is due to a less vigorous prosecution of the fishery, and to the smaller number of fishermen than formerly, most people finding remunerative employment on the Vaudreuil and Ottawa Railway, now building. Sixteen nets were seized for Sunday fishing. Mill-owners on the North River attempted to construct fish-ways, but the water kept so high that it was impossible to go on with the work. The total value of the fisheries of this division is given at $4,560.

UPPER OTTAWA DIVISION.

Overseer Joseph Marion, who has charge of the fisheries of the County of Ottawa, reports as follows:—The statistics of fisheries show that the catch was not quite as good as last year's, and the general complaint is that the quality of the fish is gradually declining. There is only one voice among fishermen, to attribute this result to sawdust and mill rubbish, which, after filling up the bays of the Ottawa and covering the spawning beds, is slowly but surely encroaching upon the navigable channels of the river. It is unnecessary to repeat here what I have said on this subject in my report of last year. So long as the mills on the Ottawa and its tributaries are permitted to throw all their refuse into the water, we cannot look to any improvement in the fisheries of this noble stream. The Government dam at Carillon is a great source of complaint, as it effectually bars the ascent of fish, and prevents the fishermen of this division from taking a share in the rich harvest which those below it are now reaping. I hope it may be possible for the Department of Public Works, some day or another, to devise a scheme by which fish will be able to surmount this obstacle, and add to the wealth of the Upper Ottawa. There were 15 men fishing this season for the local markets between Ottawa and Carillon. The catch consisted of pike, carp, catfish, mudpouts, &c. About 12 men have also been fishing on Thirty-one-mile and Pemichogan Lakes, between the Gatineau and Lièvre rivers. They were employed for about three months, and their average catch was from 20 to 25 bls. of large grey trout, pike and bass, every day. Most of the lakes in the County of Ottawa are now leased to clubs and to private parties by the Government of the Province of Quebec. Among these are Lake St. Germain, in Wakefield; the Plomb Lakes, in Denholm; Echo Beach Lakes, in Villeneuve; Graham's and other lakes in Mulgrave; Lake Bernard and Long Lake in Masham, &c. All these lakes abound in speckled trout, and some of them, as Lakes Bernard, Long and Mahon's Lakes, are famed for black bass. The owners of these lakes have erected club houses, and keep a regular staff of private guardians to prevent poaching and protect their waters. From all that I can hear, the law is strictly observed, and the fish, being fully protected, are on the increase everywhere.

Warden Joynt, who has charge of Lake Bernard, as well as of other lakes in Masham, Aldfield and Onslow, states that the fishing was good, and that netting, spearing and other violations of the law are no longer heard of. No other fishing but angling with hook-and-line or with the fly being allowed, it is somewhat difficult to give correct figures; but Mr. Joynt, estimates that there were caught in Lake Bernard during the past season about 3,000 lbs. of bass, 1,000 lbs. of trout and 2,000 lbs. of other fish; in Long Lake, 2,200 lbs. of bass, 1,000 lbs. of trout, and 700 lbs. of other fish; in Mahon's Lake, 1,700 lbs. of bass, 700 lbs. of trout, and 1,200 lbs. of other fish; in Sinclair's Lake, 3,000 lbs. of trout and 2,200 lbs. of other fish; in Wilson's Lake, about the same as in Lake Sinclair; Wolf Lake, 1,500 lbs. of trout and 700 lbs. of other fish. There are two or three other small lakes where the average catch was about 2,000 lbs. of fish.

Net fishing is prohibited on Lac des Chênes. From all the information I can get, the catch was fully equal to that of last year, and no poaching or illegal fishing was reported.

STATISTICS OF FISHERIES IN THE PROVINCE OF QUEBEC

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number the River St. Lawrence from **Cape Chatte**

Numbers.	Names of Places.	Fishing Boats.		Number of Fishermen.	Kinds of Nets Used.						
					Gill Nets.			Brush Fisheries.		Eel Fisheries.	
		Number.	Value.		Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
			$				$		$		$
1	From Capucins to Matane	70	1400	150	80	1885	2000	20	500	1	10
2	Boules and Rivière Blanche			8				8	160		
3	Métis			7				7	140		
4	Ste. Flavie			3				3	60		
5	Ste. Luce			15	2	30	40	15	300		
6	Pointe au Père			11				11	220		
7	Rimouski			3				3	60		
8	Islet à Canuel	15	211	32	2	50	20	11	445	3	30
9	Rivière Hâtée	10	120	28				14	520		
10	Bic to Bay Ha! Ha!	9	90	20	1	250	70	9	275		
11	St. Simon and St. Fabien, and inland waters	5	75	15	1	130	45	8	175	10	80
12	Inland waters, Co. Temiscouata, including Touladi River										
13	Ile aux Pommes	2	150	3				1	100		
14	Trois Pistoles	1	125	13				9	1000		
15	Isle Verte	17	2150	43				21	2100		
16	do (main land)	5	700	12				6	600	6	24
17	Cacouna			18				10	2000	5	100
18	River du Loup			7	17	400	410	4	400	4	80
19	Notre Dame du Portage			12				5	250	10	250
20	St. André			12				6	930	12	171
21	Kamouraska			7				5	405	3	170
22	St. Denis			13	37	928	463	4	180	16	375
23	Rivière Ouelle			29	54	1745	832	†1	90	40	770
24	Ste. Anne de la Pocatière			17				†1	100	19	700
25	Inland waters, County L'Islet										
26	St. Roch			36						36	1820
27	St. Jean			46						46	2160
28	L'Islet			30						30	2000
29	Ile aux Grues			23						23	4900
30	Cap St. Ignace			14				4	270	10	500
31	St. Thomas	1	15	35				35	1500		
32	Berthier	4	48	26				3	1800	23	425
33	St. Valier	3	120	2				2	2900		
34	St. Michel	5	180	5				5	2800		
35	Beaumont	9	270	4				4	2100		
36	Pointe Lévis	10	400	6				5	3000		
	Totals	166	6054	705	194	5388	3880	240	25380	297	14565

† Porpoise fishery.

EXCLUSIVE OF THE GULF OF ST. LAWRENCE.

of Men, together with the Yield, Value and Kinds of Fish, &c., on the South Shore of to **Point Lévis**, during the Year 1890.

Kinds of Fish.											Fish Product.		Value.	Numbers.
Salmon, lbs.	Trout, lbs.	Shad, lbs	Herring, barrels.	Eels, lbs.	Sturgeon, lbs.	Sardines, barrels.	Whitefish, lbs.	Pickerel, lbs.	Coarse and Small Fish, barrels.	Fish for Manure, barrels.	Porpoise Skins, No.	Porpoise Oil, galls.		
													$ cts.	
2970	3800		275	400		100			25	500	154	9240	7,035 00	1
70			100			10				200			544 00	2
750			1950			450				400			9,500 00	3
75			75			20			14	200			517 00	4
1875			2475			450				300			11,775 00	5
1680			2140			150				1000			9,846 00	6
300			900			75				600			4,185 00	7
1270		580	1005	5200	100	80			22	1000			5,432 80	8
1000		400	800			140			15	1500			4,639 00	9
1500		500	300			75			15	600			2,100 00	10
2000	13000	400	100	6000		35			8	300			2,763 00	11
	13500												1,350 00	12
		100	12			15			2000	10			6,104 00	13
825		200	405		200	170			1200	52			5,945 00	14
1700		1900	910		400	675			5000	300	*18	1080	22,007 00	15
425		200	422	3000	5000	320			1000	110			6,340 00	16
1400		120	475	500	1420	702			1800	100	4	240	9,970 40	17
1800			300	400	2000	200			1000	150			5,379 00	18
50			10	2800	200	10			100	150			635 00	19
			24	2350	2000	1050				430			3,722 00	20
400		2200	50	1710	2800	575				873			2,844 10	21
1000		4200	2	15850	950	862				100			4,104 00	22
				47900						30	51	3060	4,317 00	23
				28200	2500					115	90	5400	4,419 50	24
	5000												500 00	25
				23400					200		1	60	2,032 00	26
				52400					190				3,714 00	27
				39200					136				2,760 00	28
				68200					92				4,368 00	29
				24000	3800		5600		90				2,386 00	30
20		100		16700	18400		19000	1550	105				4,044 00	31
240		1256		22370	5900		7000	550	17				2,463 56	32
500		1800		21400	5400		9500	500	16				2,654 00	33
1020		1910		22600	2400		4900	1500	24				2,372 60	34
650		5532		7400	1800		3000	1050	15				1,361 92	35
1110		5600		14000	1500		5000	1180	24				2,030 80	36
24630	35300	26998	12730	425980	57770	6164	54000	6330	13108	9020	318	19080	166,160 68	

* 42 seals were killed in this division.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, together with Number of Fishermen employed on the North Shore of the River St. Lawrence from Quebec to

Number.	Names of Places.	Fishing Boats.		Number of Fishermen.	Kinds of Nets Used.						
					Gill Nets.			Brush Fisheries.		Eel Fisheries.	
		Number.	Value.		Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
			$				$		$		$
	Island of Orleans.										
1	St. Laurent			6	6	2100	1520				
2	St. Jean			7	6	1190	785			1	50
3	St. François (south side of Island)			16	2	600	600			14	890
4	Argentenay			9	1	200	150			8	400
5	St. François (north side of Island)			6				5	140	1	40
6	Ste. Famille			9				9	215		
7	St. Pierre			5	5	1100	1000				
	North Coast.										
8	Isles Madame and aux Réaux			4	3	600	360			1	100
9	St. Joachim			23				1	200	22	1950
10	Ste. Anne			5				1	20	4	70
11	Chateau Richer			6	2	550	800	4	82		
12	Bay St. Paul and neighbouring lakes in the Co. of Charlevoix			55						35	860
13	Ile aux Coudres			75				50	200	70	350
14	St. Irenée			28				23	150	5	30
15	Les Eboulements			65				40	200	60	220
16	Malbaie			18	2	340	22	16	80		
17	St. Fidèle			12	1	180	11	10	40	2	10
18	St. Siméon			8	2	300	20	6	30		
	Saguenay Division.										
19	Rivière aux Canards	3	30	3				3	60		
20	Anse Ste. Catherine	3	45	3				3	60		
21	Tadoussac	3	45	3	1	20	20	1	20		
22	Pointe Rouge	2	50	4	2	150	150				
23	Moulin Baude	1	10	1	1	80	80				
24	Pointe à la Cariole	1	15	1	1	80	60				
25	Anse aux Pilotes	2	30	2	2	130	100				
26	Petites Bergeronnes (angling)										
27	Bon Désir	2	25	2				2	40		
28	Escoumains	6	60	6	3	230	115	3	60		
29	Baie des Bacons	1	10	1				1	25		
30	Sault au Mouton	2	20	2				2	45		
31	Mille Vaches	2	20	2				2	55		
32	Pointe Boisvert	6	75	6	1	150	75	5	155		
33	Portneuf	4	40	4	2	212	106	2	35		
34	Sault au Cochon	1	20	1	1	140	70				
35	Pointe Colombier	4	122	4	4	260	130				
36	Bersimis	3	36	3				3	75		
37	Inland Waters										
	Lake St. John Division.										
38	St. Joseph d'Alma to Roberval		*	250	250	7500	1250				
	Totals	46	653	655	298	16112	7424	192	1987	223	4970

* 100,000 lbs. winninish included in these estimates.

with the Yield, Value and Kinds of Fish, &c., on the North Shore of the River **Bersimis**, during the Year 1890.

Kinds of Fish.										Fish Products.					
Salmon, lbs.	Trout, lbs.	Shad, lbs.	Herring, barrels.	Eels, lbs.	Sturgeon, lbs.	Sardines, barrels.	Whitefish, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse and Small Fish, barrels.	Fish for Manure, barrels.	Porpoise Skins, No.	Porpoise Oil, galls.	Value.	Number.
														$ cts.	
1008	....	1090	....	10000	....	....	5280	1740	..	....	....	...	.....	1,393 80	1
904	.....	1410	.....	12700	....	....	8280	2820	.....	...	....	..	....	1,859 00	2
240	....	220	...	18350	....	....	3840	1200	...	....	.	...	.....	1,541 40	3
80	.....	200	.....	11200	...	...	1200	360	...	...	.....	.....	.....	817 60	4
....	....	....	.....	2150	.....	....	2160	792	.....	24	.....	.....	.....	421 32	5
....	...	.....	.....	946	4400	....	4848	1800	...	57	.....	.....	...	987 60	6
112	..	100	.....	6600	400	...	9600	1980	....	...	.....	.....	.....	1,335 20	7
544	.....	1250	...	7200	5800	....	6240	1440	.....	....	...	..	.....	1,549 40	8
...	.....	.....	.....	45710	....	...	720	240	.....	...	.....	.....	.....	2,814 60	9
.....	.....	.....	.....	2620	....	...	600	300	....	1	...	....	...	226 20	10
48	.....	30	.....	5730	4200	....	25100	10100	.....	75	...	..	.....	3,446 20	11
.....	87400	.....	....	67000	.....	..	.....	.....	.....	...	.....	.....	.....	12,760 00	12
.....	.....	.....	10	4000	....	40	.....	.....	.....	...	300	20	120	678 00	13
60	....	.....	40	100	.....	100	.....	.....	.....	....	5000	....	.....	2,978 00	14
50	.....	..	..	3400	....	150	.....	.....	.....	....	4000	....	.....	2,664 00	15
700	.....	.....	50	160	.....	100	.....	.....	.....	...	3000	....	...	2,149 60	16
500	.....	.....	40	170	..	50	.....	.....	.....	....	600	...	.	720 20	17
460	....	....	26	..	....	30	....	....	....	....	400	11	660	794 00	18
900	.....	...	10	....	....	..	....	....	....	3	60	....	.....	259 00	19
2250	500	....	15	....	....	..	....	....	.....	3	150	....	...	644 00	20
.....	2000	....	25	.....	.....	.....	.....	.....	.....	...	800	125	7500	4,200 00	21
17640	.....	....	...	.....	.....	.....	.....	.....	.....	...	...	...	.....	3,528 00	22
7380	.....	...	...	.....	.....	.....	.....	.....	.....	...	...	...	.....	1,476 00	23
6300	.....	...	...	.....	.....	.....	.....	.....	.....	...	...	...	...	1,260 00	24
5940	.....	....	...	.....	.....	.....	.....	.....	.....	...	...	...	...	1,188 00	25
....	2000	.....	...	.....	.....	.....	.....	.....	.....	...	...	...	.....	200 00	26
.....	.....	...	15	..	.....	.....	.....	.....	.....	6	100	.....	.....	128 00	27
7074	200	.....	16	.....	.....	.....	.....	.....	.....	4	500	.....	.....	1,760 00	28
234	75	....	12	.....	.....	.....	.....	.....	.....	5	150	.....	.....	192 30	29
288	....	..	6	..	.....	.....	.....	.....	.....	1	50	....	.....	109 60	30
234	.....	.....	50	.....	.....	.....	.....	.....	.....	10	400	...	.....	476 80	31
3780	.....	.....	25	.....	.....	.....	.....	.....	.....	40	300	...	.....	1,126 00	32
2268	300	.....	15	...	.....	.....	.....	.....	.....	3	100	.....	.....	602 60	33
3348	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	669 60	34
3060	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	612 00	35
270	200	....	30	.....	.....	.....	.....	.....	....	20	200	....	...	354 00	36
..	25000	.....	.....	.....	.....	.....	.....	.....	..	...	.....	.....	.....	2,500 00	37
.....	11000	...	.....	.....	...	....	20000	50000	25000	550	.....	....	*	14,600 00	38
65672	128675	4300	385	198036	14800	470	87868	72772	25000	802	16110	156	8280	75,022 82	

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, extending from **Quebec** to **Upper**

Numbers.	Names of Divisions.	Fishing Boats.		Number of Fishermen.	Kinds of Nets Used.								
					Gill Nets.			Seines.		Brush Fisheries.		Eel Fisheries	
		Number.	Value.		Number.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.
			$				$		$		$		
1	Sherbrooke and Megantic	15	150	100									
2	Magog and Brome			35									
3	Missisquoi Bay	11	104	34				1057	575				
4	Iberville (including Richelieu River)	37	543	35				430	300			*60	3670
5	Chateauguay	75	1350	97	7	140	210	664	664				
6	Beauharnois	46	485	90	2	400	24	535	860				
7	Laprairie to Verchéres (including Montreal)	21	210	42				21	420				
	Richelieu and Yamaska (including St. Francis and Yamaska Rivers)	169	1130	145	72	1564	344	974	580			54	940
9	Nicolet	44	420	53	55	900	100	1000	200			42	110
10	Three Rivers	17	170	17								18	28
11	Berthier, Joliette and Montcalm	88	704	88	6	90	6	670	500			50	100
12	Terrebonne	137	822	200	7	100	60	180	180			3	12
13	Lake Two Mountains (including Isle Perrot)	29	287	34	60	850	180					19	54
14	River Beaudet			8	2	30	25	120	100				
15	Lower Ottawa	16	300	18	50	1000	350	20	18				
16	Upper Ottawa	75	450	75	250	3000	1800						
17	Gatineau Lakes												
	Totals	780	7125	1071	511	8074	3099	5671	4397			246	4914

†50,000 bushels tom cod, $25,000 included.
*48 of these are verveux. One of these Eel weirs is valued $3,000.

together with the Yield, Value and Kinds of Fish, &c., within the District **Ottawa,** during the Year 1890.

Kinds of Fish.										Value.	Numbers.
Trout, lbs.	Shad, lbs.	Eels, lbs.	Sturgeon, lbs.	Whitefish, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse and Small Fish, lbs.		
										$ cts.	
46800	10300	13500	5000	2500	15250	25000	24150	9500	30100	11,850 00	1
10000	...	...	...	...	...	9000	12000	...	40000	3,460 00	2
...	21815	...	...	...	...	...	39600	...	41800	4,938 90	3
...	...	51540	800	...	...	800	210	...	84200	5,727 00	4
...	...	30000	75000	...	12000	20000	22000	50000	250000	19,540 00	5
...	...	42800	40900	...	4500	6500	10100	23700	121400	11,115 00	6
...	1000	400000	45000	15000	60200	4000	30000	64500	120000	40,437 00	7
...	250	50000	1600	300	3400	11000	4200	4000	166000	9,431 00	8
...	1640	19000	5500	...	400	1300	1500	2600	...	1,890 40	9
20000	40000	25000	40000	...	3000	1000	12000	40000	510000	†51,560 00	10
...	...	3000	...	...	...	2500	4900	5500	37000	2,009 00	11
54000	1000	2710	2000	...	840	4600	4500	4850	...	6,581 50	12
...	...	2500	2000	...	9100	4600	10800	8900	40400	3,397 00	13
...	...	28000	8000	...	600	700	400	500	...	2.287 00	14
1200	800	1250	22000	2500	1150	900	7300	14750	50000	4,561 50	15
...	...	6500	10000	...	8000	...	12000	10400	35600	3,778 00	16
120000	...	...	...	16500	...	13400	...	46000	...	16,424 00	17
252000	76805	675800	257800	36800	118440	105300	195660	285200	1526500	198,987 30	

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from **Cape Chatte** to **Point Lévis**, in 1889 and 1890.

Kinds of Fish.	Prices	1889.		1890.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	52,585	3,155 10	26,998	1,619 88
Eels ..... Lbs.	0 06	375,410	22,524 60	425,980	25,558 80
Herring ..... Brls.	4 00	17,576	46,304 00	12,730	50,920 00
Sturgeon ..... Lbs.	0 06	41,290	2,447 40	57,770	3,466 20
Sardines ..... Brls.	3 00	5,230	15,690 00	6,164	18,492 00
Trout ..... Lbs.	0 10	21,700	2,170 00	35,300	3,530 00
Salmon ..... Lbs.	0 20	32,235	6,447 00	24,630	4,926 00
Whitefish and bar fish ..... Lbs.	0 08	18,101	1,448 08	54,000	4,320 00
Pickerel ..... Lbs.	0 06	2,167	130 02	6,330	379 80
Porpoise skins ..... No.	4 00	436	1,744 00	318	1,272 00
do oils ..... Galls.	0 40	26,160	10,464 00	19,080	7,632 00
Coarse and mixed fish ..... Brls.	3 00	1,291	3,873 00	13,108	39,324 00
Fish for manure ..... Brls.	0 50	12,608	6,304 00	9,020	4,510 00
Seal skins ..... No.	1 00	.....	.....	42	42 00
do oil ..... Galls.	0 40	.....	.....	420	168 00
Total Value of the Fisheries		.....	122,731 20		166,160 68
Increase		.....	.....	.....	43,429 48

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from **Quebec** to **Bersimis**, in 1889 and 1890.

Kinds of Fish.	Prices	1889.		1890.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	22,170	1,330 20	4,300	250 80
Eels ..... Lbs.	0 06	135,756	8,145 36	198,036	11,882 16
Herring ..... Brls.	4 00	858	3,432 00	385	1,540 00
Sturgeon ..... Brls.	0 06	19,800	1,188 00	14,800	888 00
Sardines ..... Brls.	3 00	429	1,287 00	470	1,410 00
Salmon ..... Lbs.	0 20	41,628	8,325 60	65,672	13,134 40
Trout ..... Lbs.	0 10	133,200	13,320 00	128,675	12,867 50
Pickerel ..... Lbs.	0 06	123,092	7,385 52	72,772	4,366 32
Pike ..... Lbs.	0 05	40,000	2,000 00	25,000	1,250 00
Whitefish ..... Lbs.	0 08	137,272	10,981 76	87,868	7,029 44
Winninish ..... Lbs.	0 06	100,000	6,000 00	100,000	6,000 00
Coarse and mixed fish ..... Brls.	3 00	1,040	3,120 00	802	2,406 00
Fish as manure ..... Brls.	0 50	6,956	3,478 00	16,110	8,055 00
Porpoise skins ..... No.	4 00	298	1,192 00	156	624 00
do oil ..... Galls.	0 40	17,880	7,152 00	8,280	3,312 00
Total Value of the Fisheries		.....	78,337 44		75,022 82
Decrease		.....	.....	.....	3,314 62

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from **Quebec to Upper Ottawa**, in 1889 and 1890.

Kinds of Fish.	Prices.	1889.		1890.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	95,575	5,734 50	76,805	4,608 30
Eels ..... "	0 06	725,425	43,525 50	675,800	40,548 00
Sturgeon ..... "	0 06	397,235	23,834 10	257,800	15,468 00
Trout ..... "	0 10	334,800	33,480 00	252,000	25,200 00
Whitefish ..... "	0 08	37,960	3,036 80	36,800	2,944 00
Maskinongé ..... "	0 06	129,130	7,747 80	118,440	7,106 40
Bass ..... "	0 06	110,920	6,665 20	105,300	6,318 00
Pickerel ..... "	0 06	357,360	21,441 60	195,660	11,739 60
Pike ..... "	0 05	314,880	15,744 00	285,200	14,260 00
Mixed fish ..... "	0 03	1,777,000	53,310 00	1,526,500	45,795 00
Tom Cod ..... Bush.		30,000	18,000 00	50,000	25,000 00
Total Value of the Fisheries			232,509 50		198,987 30
Decrease					33,522 20

RECAPITULATION.

Yield and Value of the Fisheries of the **Province of Quebec** (*Exclusive of the Gulf Division*) for 1890.

Kinds of Fish.	Quantity.	Value.
		$ cts.
Shad ..... Lbs.	108,103	6,486 18
Eels ..... "	1,299,816	77,988 96
Herring ..... Brls.	13,115	52,460 00
Sturgeon ..... Lbs.	330,370	19,822 20
Sardines ..... Brls.	6,634	19,902 00
Trout ..... Lbs.	415,975	41,597 50
Salmon ..... "	90,302	18,060 40
Pickerel ..... "	274,762	16,485 72
Pike ..... "	310,200	15,510 00
Whitefish ..... "	178,668	14,293 44
Maskinongé ..... "	118,440	7,106 40
Bass ..... "	105,300	6,318 00
Tom Cod ..... Bush.	50,000	25,000 00
Winninish ..... Lbs.	100,000	6,000 00
Mixed fish ..... Brls.	21,581	87,525 00
Fish as manure ..... "	25,130	12,565 00
Porpoise skins ..... No.	474	1,896 00
do oils ..... Galls.	27,360	10,944 00
Seal skins ..... No.	42	42 00
do oils ..... Galls.	420	168 00
Total in 1890		440,170 80
do 1889		433,578 14
Increase		6,592 66

GENERAL RECAPITULATION.

YIELD and VALUE of the Fisheries in the **Whole Province of Quebec**, for 1890.

Kinds of Fish.		Quantity.	Value.
			$ cts.
Cod	Cwt.	153,709	614,836 00
Herring, pickled	Brls.	19,892	79,568 00
do smoked	Boxes.	865	216 25
Mackerel	Brls.	5,023	75,345 00
Haddock	Cwt.	1,298	5,192 00
Halibut	Lbs.	92,001	9,200 10
Salmon, pickled	Brls.	44½	7,080 00
do fresh	Lbs.	570,756	114,151 20
Shad	do	108,103	6,486 18
Eels	do	1,299,816	77,988 96
do pickled	Brls.	72	720 00
Sardines	do	6,634	19,902 00
Smelt	Lbs.	100,745	5,037 25
Sturgeon	do	330,370	19,822 20
Trout	do	415,975	41,597 50
do	Brls.	153	1,530 00
Winnimish	Lbs.	100,000	6,000 00
Whitefish	do	178,668	14,293 44
Maskinongé	do	118,440	7,106 40
Bass	do	105,300	6,318 00
Pickerel	do	274,762	16,485 72
Pike	do	310,200	15,510 00
Tom cod	Bush.	50,000	25,000 00
Cod, tongues and sounds	Brls.	183	1,830 00
Lobsters, canned	Lbs.	616,218	73,946 16
Small and mixed fish	Brls.	21,610	87,612 00
Sealskins	No.	17,045	17,045 00
Porpoise skins	No.	549	2,271 00
Fish oils	Galls.	206,796	82,718 40
Fish used as bait	Brls.	49,492	74,238 00
do Manure	do	61,066	30,533 00
Fish used for local consumption not included	do	18,885	75,540 00
Total for 1890			1,615,119 76
do 1889			1,876,194 19
Decrease			261,074 43

STATEMENT

Of the Number and Value of Boats, Nets and other Fishing material employed in the **Province of Quebec** (*Exclusive of the Gulf Division*).

Articles.	Value.
	$
992 boats	14,432
29,574 fathoms of nets	14,403
5,671 do seines	4,397
432 brush weirs	27,367
766 eel weirs	24,449
Total	85,048

NOTE.—The number of men engaged fishing is given as 2,431, but they cannot be considered as regular fishermen as most of them only fish during a short period of the year.

STATEMENT of Value of Vessels and Boats and Fishing Material employed in the **Whole Province of Quebec**, 1890.

Articles.	Value.	Total.
	$	$
67 Vessels, 2,097 tons	61,100	
6,182 Boats and flats	180,625	
216,912 Fathoms of Nets	124,591	
30,955 . do Seines	33,152	
1,198 Brush and eel weirs	51,816	
28 Trap nets and bag nets	4,060	
		455,344
33 Lobster factories, &c	28,000	
38,600 do traps	38,200	66,200
		521,544

STATEMENT of Men Employed in the Fisheries of Quebec, for 1890.

Sailors	364
Fishermen and shoremen	10,639
Total	11,003

APPENDIX E.

MANITOBA AND NORTH-WEST TERRITORIES.

ANNUAL REPORT OF INSPECTOR ALEXANDER McQUEEN, ON THE FISHERIES OF MANITOBA AND THE NORTH-WEST TERRITORIES, FOR THE YEAR 1890.

WINNIPEG, 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my seventh annual report on the fisheries of the Province of Manitoba and the North-West Territories, being for the year ending 31st day of December, 1890. Accompanying this report will be found various statistics as to the catch, the number of men engaged, and boats employed in connection with the fisheries; also, the quantity of twine used, and the appliances necessary to preserve fish, preparatory to their being sent to market.

Lake Winnipeg is still, as it always has been, the principal place for trade fishing in the North-West. There was no addition to the number of firms engaged in fishing in this lake during the past year, nor much increase in the quantity of plant used. One firm added a small steam tug to its fishing fleet, and another floating freezer was constructed at Selkirk. I may state, that during the short season when fishing was carried on, there were about the same number of boats and twine used as in the previous year, and that although the season was shorter, the catch was slightly in excess of that of 1889.

In addition to those engaged fishing during the summer, with steam tugs and sail boats, there are quite a number of men who devote a couple of months to winter fishing, principally Icelanders, half-breeds and Indians. They fish and sell to the trade. Their catch, this year, has not been as good as usual, owing to the extension of the close season for whitefish from the 10th to the 30th of November. One good result, however, of the change, will be that a better grade of fish will be put on the market, as fish caught in winter are better preserved than those obtained formerly in open water, early in November.

The Indians fished, as usual, during the spawning season, but not to the same extent as formerly, because they have been prohibited from selling their catch during that period. Indians have been deluded into the idea that they had a legal right, under treaty stipulations, to fish during the close season; but a late decision of the Department of Justice has set this matter at rest. The Minister, after fully reciting the terms of the several treaties, concludes by stating: "The regulations are binding upon the Indians there to the same extent as they are binding upon the other subjects of Her Majesty. The close seasons, created by the regulations, apply to the Indians, subject to the proviso contained in section 5 of the Act; and the Indians have no rights of fishing without license or during the spawning season, or on the spawning grounds, as provided for by that section." In view of this decision, and rather than at once enforce a suspension of Indians fishing in close season, it might be better to act in a tentative way, and issue licenses to permit them to fish for their own immediate use. They have enjoyed this privilege so long that to rigidly enforce the regulations might lead to privation and trouble. It might be advisable in this connection for the Indian authorities to supply the Indians with better appliances for fishing in deep water at all seasons of the year, and thus obviate

the necessity of fishing for their own use, as they now do, during the spawning season. The agents, also, who fully understand the situation, might educate the Indians up to the necessity of protecting the fish in their own interest.

The total catch this year, including that for home consumption, may be summarized as follows:—

	Lbs.	Value.
1890	5,967,271	$232,104 05
1889	5,859,927	225,679 00

The quantity of fish exported last year was 1,781,587 lbs., and 4,078,340 was used in Canada, either for home consumption here or in the eastern Provinces.

The quantity exported, this year, was 2,055,988 lbs., leaving 3,986,743 lbs. for consumption at home.

THE FISH TRADE.

The principal firms fishing on a large scale were: The Manitoba Fish Company; Wm. Robinson & Co., and the Selkirk Fish Company. They operated in Lake Winnipeg, only, and at the following places: Beren's Island, Reindeer Island, Selkirk Island and Little Saskatchewan Bay. One of the firms fished for a short time, at Pigeon River, Blood Vein River and Grand Marais, for sturgeon.

The total catch of the firms may be summarized as follows:—

	Lbs.	Value.
Whitefish	1,735,492	$86,774 60
Pickerel	114,007	3,420 21
Sturgeon	53,283	1,598 49
Pike	18,062	361 49
Catfish	3,380	101 40
Total	1,924,224	$92,255,94

The firms employed during the year 68 fishermen, 3 small tugs and 25 sail boats, valued at $43,400, and of 1,067 tons burthen. In addition to the boat fishermen, 120 other hands were employed curing and handling fish.

Thirty-two thousand fathoms of gill net were used by these firms during the season, valued at $4,500

They have freezers and ice-houses for the purpose of preserving fish at the following points: Selkirk, Beren's Island, Reindeer Island, Grand Rapids, Selkirk Island and the Little Saskatchewan River. These are valued at $27,000. They also have four floating freezers or barges in which fish are preserved during transportation to Selkirk, whence they are shipped by rail to different markets. Three tugs are employed in transporting their fish from the different stations to Selkirk. The whole plant invested by these firms in the trade is valued at $75,000.

There are, besides the above, a number of fish dealers who do not fish themselves, but purchase during the winter months from native fishermen and settlers their winter catch of fish. This trade lasts for about two months, after the close season for whitefish on the 1st of December. The principal buyers are Blackwood Bros., Hugh Armstrong and B. Cohen. Icelanders, Indians and settlers who reside on the south end of Lake Winnipeg, find winter fishing a great benefit at a season when other labour is not in demand. The "Logberg," an Icelandic paper, in discussing this question, says: "Both winter fishing and employment with the traders in summer confers a great boon on the Icelandic community, they having been induced to settle in the vicinity of Lake Winnipeg mainly on account of the fisheries. A large number of them being in humble circumstances find the fishing trade to be of material advantage in the maintenance of themselves and their families. There are now about 3,000 Icelandic settlers on this lake, and probably 2,000 Indians, all of whom are more or less benefited by the fisheries."

The fishing companies exported a large quantity of their catch to leading cities in the United States. One firm sold 100,000 lbs. of whitefish in Winnipeg alone during the past year. Considerable quantities were shipped to Windsor, Toronto and Montreal, and some were sold in Portage la Prairie, Brandon and other towns along the Canadian Pacific Railway line. Whitefish sold in lots at Selkirk at 5 cents per pound.

EXPORT OF FISH.

Through the courtesy of Lieut.-Col. Scott, Collector of Customs at the port of Winnipeg, I am able to submit a statement of the export of fish to the United States during the year 1890:—

	1889.	1890.
	Lbs.	Lbs.
Whitefish (fresh)	1,083,112	1,446,289
do (salted)	63,800	.....
Pike	364,628	339,222
Pickerel	154,779	250,936
Tullibees	58,343	42,506
Perch	3,601	690
Catfish	180	855
Gold Eyes	500	140
Sturgeon	45,830	231,986
Suckers	5,793	.....
Sheepshead	900	.....
Salmon Trout	121	150
Total	1,781,587	2,332,774

In the export of whitefish, pickerel, pike and sturgeon, allowance must be made for fish caught in American waters, in the Lake of the Woods, by the Baltimore Fish Company. These fish were shipped by way of Rat Portage to Winnipeg, where they were entered for export to Minneapolis. The entry is thus misleading, and might be construed into being products of Canadian waters. The quantity thus caught is as follows:—

Whitefish	54,629
Pike	13,769
Pickerel	29,685
Sturgeon	178,703
Total	276,786

This quantity deducted from 2,332,774 lbs. will leave 2,055,988 lbs., as the actual Canadian export.

VARIETIES OF FISH.

The lakes and rivers of Manitoba and the North-West Territories abound with fish of various kinds. The staple products of our waters are whitefish, trout, pickerel, sturgeon, pike, catfish and tullibees. In addition to these, there are a large number of others, usually classed as coarse fish, but which are, nevertheless, fair food fish, and find a ready market for home consumption. I have, from time to time, collected specimens of the different kinds of fish of this region and forwarded them to Prof. Sweeney, of St. Paul, from whom I have received great assistance in their classification. I submit the following descriptions:—

WHITEFISH (*Coregonus albus.*)—This species is to be found in all our great lakes, and in many of the smaller ones, and streams tributary to them. They are a pro-

lific fish, and spawn in autumn. Some deposit their ova in sand or rocky bottoms on the shores of a lake, while others ascend rivers to other lakes, from thirty to fifty miles, for the same purpose. These fish vary in weight from 3 to 20 lbs. A female fish of 5 lbs. will deposit 50,000 eggs. An authority on this subject estimates that for every ounce in weight, a whitefish will exude 600 ova. They frequent clear water, and subsist for the most part on infant mollusks, annelides, the larvæ of the various species of the ephemeræ, and most of all the crustacean class of water life. They are undoubtedly the best food fish of this region, and command a higher price than any other fish in the market. They are migratory in their habits, and change from one part of the lake to another, thus sometimes giving rise to a clamour that there is scarcity.

The *American Angler*, in a recent issue, refers to this question, and citing Milner, an authority on the subject, gives the following summarized statement:—

Weight of Fish.	Weight of Ovaries.	Number of Eggs.
2 lbs.	$5\frac{3}{4}$ oz.	21,229
$2\frac{3}{4}$ "	$7\frac{1}{2}$ "	28,500
4 "	16 "	48,000
$7\frac{1}{2}$ "	25 "	66,600

"This makes an average of about 10,000 eggs increase for every additional pound weight in the fish, which is the late Mr. Seth Green's estimate, from observations made in spawning white fish. If even 1 per cent. reached maturity, the spawning of a pair of whitefish would give as its result 400 pairs of mature fish, and without interference of other than natural causes, such increase would, in a few generations, completely overstock any area of water occupied by them."

Lake Trout (*Salvelinus namaycush*).—This species of fish is very scarce in Lake Winnipeg, but it is said to be more abundant in many of the inland waters of the adjacent district. Some have been found in the vicinity of Beren's and Reindeer Islands, in Lake Winnipeg. They are a good fish, as they naturally must be, belonging as they do to the great salmon family. Those found in our waters are, however, inferior in quality to those caught in Lake Superior. The lake trout inhabits only lakes containing deep, cold, clear water, and readily succumb in waters of a higher temperature. They leave deep water in October and frequent the shoals to spawn. The nest is usually made in the gravel, where the female deposits her eggs, which are immediately after impregnated by the male, as he is in close attendance. I obtained a fine specimen of this fish last year in Sturgeon Bay, weighing 28 pounds.

This species of fish for the most part subsist upon other fish, and are very fond of whitefish.

Pickerel (*Stizostethium vitreum*).—This species of fish, known as the wall-eyed pike or doré, is abundant in our north-west waters, and is an excellent table fish. They are usually found in the shallow waters of our lakes. They are also found in some of our rivers, disporting themselves where the water is clear and swift. They take a delight in surmounting rapids, and may sometimes be found at the mouth of sloughs, when the water is running out of them. They spawn in April and May. They are highly prized by the Indians who reside on the lakes, and, even in the trade, rank next to whitefish, and command a ready sale in the market.

Sturgeon (*Acipenser rubicundus*).—These fish are abundant in Lake Winnipeg and some of the other inland lakes and rivers, principally Rainy River, a tributary of the Lake of the Woods. Strange to say, they are not found in Lakes Manitoba or Winnipegoosis. It is an excellent food fish, and always commands a ready sale in the market. The sturgeon is the most prolific of all fish in our waters. It spawns in the spring of the year, usually in May and June. A good sized female fish will deposit one million eggs. The roe of the sturgeon is very much sought after in the manufacture of Caviare, which promises in the future to be a paying industry here. I have seen some sturgeon caught in Lake Winnipeg weighing over 200 lbs. The average weight, however, is from 20 to 40 lbs. Sturgeon prey upon the spawn of other fish, and are particularly destructive to whitefish spawn.

Pike (*Esox luscius*).—This species of fish, commonly known in the North-West under the name of Jackfish, abounds in all our waters. They are a fair food fish, although not realizing as good a market price as whitefish, trout, pickerel or sturgeon. Pike are very destructive of other kinds of fish, and subsist almost entirely upon them. They are exceedingly voracious; I have opened some in whose stomach I found other fish weighing from 2 to 4 pounds. It eats nearly all kinds of fish, sparing not even its own species. They spawn in April, running up into rivers to marshy and grassy places, where they deposit their ova. There is a prejudice against this fish, from the fact that it preys upon whitefish and other good food fish. The people would not object to the extermination of this species, provided the smaller lakes could be stocked with whitefish, trout, bass and carp in their stead.

Tullibee (*Coregonus tullibee*).—This species of fish somewhat resembles the whitefish, and is classed by scientists as belonging to the same family. They are, however, greatly inferior to whitefish as a table fish, and do not command as good a price in the market. They spawn in December, and are a prolific fish. They find a ready sale at home, and many are exported to foreign markets.

Catfish (*Siluridæ*).—This species of fish is plentiful in Lake Winnipeg, and is also found in many of our rivers. It is considered a good fish, and thought by many to rank next to pickerel (doré). They spawn in May and June.

Gold Eye (*Hyoden chrysopsis*).—This is a palatable food fish, which finds a ready sale in Winnipeg and other towns for home consumption. It is plentiful in all our large lakes and most of the rivers and streams of the North-West. They spawn in April and May, and are very prolific. They are a dry and bony fish, but when smoked, their flavour is greatly improved, and they command a much higher price.

The other species of fish under my observations are: Sheepshead, perch, buffalo fish, suckers and ling, which are generally classed as coarse fish. I may, in another report, give some particulars about them. The buffalo fish are abundant in several of our lakes, and vary in weight from 5 to 40 lbs. The ling or eel pout, unfortunately, are too plentiful in our waters. They are unfit for food, and are a great annoyance to fishermen when found in their nets. I might here mention that turtles are frequently found in our waters. I saw one caught last summer in the Red River, opposite Winnipeg, which weighed 14 lbs.

REPORTS OF FISHERY GUARDIANS.

I have much pleasure in stating that the several fishery guardians were attentive to their duties and attended to the enforcement of the regulations during the close season. Their supervision, however, was not confined to the close season, as they devoted considerable time in watching the operations of fishermen, ascertaining the number of men and boats employed, the quantity of nets used, and particulars as to the catch. They also assisted me in the collection of license fees from fishermen, who seldom visit Winnipeg.

ST. LAURENT, LAKE MANITOBA.

Guardian Daniel Devlin, whose division extends from Totogan to St. Laurent, on the south shore of Lake Manitoba, and from St. Laurent to Long Point, on the east shore, reports fishing as mainly carried on during the winter season, and by people residing in the vicinity of the lake. The fishing industry in Lake Manitoba differs from that of Lake Winnipeg, inasmuch as there were no large operators, and consequently no plant used during the summer seasons. This he attributes to the difficulty of navigating the lake with boats of any considerable draft of water, owing to its shallowness. Whitefish, too, are not as plentiful as in other lakes. He states that the extension of the close season for whitefish is detrimental to the interests of native fishermen, who depend, to some extent, for sustenance during the winter upon the catch they obtain during the early part of the season. By making tests in regard

to the spawning of whitefish, and putting down nets on the 10th, 15th, 20th and 25th of November, this officer found that on the 15th of that month, whitefish had ceased spawning and left for deep water.

The following is a summary of the catch for market in this district for 1890 :—

	Lbs.	Value.
Whitefish	50,000	$2,500 00
Pickerel	75,000	2,250 00
Pike	140,000	2,800 00
Tullibee	8,000	160 00
Mixed fish	15,000	300 00
Total	288,000	$8,010 00

In addition to the above, 40,000 lbs. mixed fish, valued at $1,200, are given as an estimate of the quantity used for home consumption. Nets, measuring 7,000 fathoms of 6-inch mesh, extension measure, and valued at $1,400, were used. No boats were employed, as on account of the extension of the close season, fishing was carried on only during the winter.

FORT ALEXANDER, LAKE WINNIPEG.

Guardian John Wood, whose division extends from the mouth of the Red River, along the east side of Lake Winnipeg to Loon Straits, states that fishing during the year was carried on principally for home consumption. A pound-net was used at Grand Marais for about a month, by the Manitoba Fish Company. This officer reports that Raymond & Anderson, with a small sail boat and a few gill-nets, started to fish early in June at Hole River, near the Indian Reserve. The Indians having complained about this, the firm in question was urged to change their location, which they did, and proceeded to Black Island. Winter fishing opened about the 1st December, and will continue until about the 1st February. With the exception of the above mentioned pound-net, all other fishing was carried on with gill-nets by natives and settlers. The mode of fishing in winter is by cutting holes in the ice and stretching the net underneath it from hole to hole.

Whitefish spawned from eight to ten days later than usual. This officer thinks this was owing to the mild weather and prevalent south winds, which materially effected the temperature of the water. He considers the twenty days extension of close time for whitefish beneficial. The regulations regarding the close season were strictly observed by licensed fishermen. Indians, however, fished as usual, but only for their own use.

There were 18,025 fathoms of gill-nets in use in this district during the year, valued at $2,525; also, 167 skiffs and birch-bark canoes, valued at $1,035, used by settlers in fishing.

Subjoined is a statement of the catch of fish for the year ending 31st December, 1890 :—

	Lbs.	Value.
Whitefish	242,430	$12,121 50
Pickerel	134,840	4,035 20
Pike	10,380	207 60
Sturgeon	52,330	1,569 90
Mixed fish	278,800	5,560 00
Total	718,780	$23,494 20

Three small traders purchased on the ice 50,000 lbs. of whitefish and 80,000 lbs. of pickerel and pike, which were marketed at Selkirk.

Mr. Wood reports that Loon, Rice, Split Rock, Hole, Bad Throat, Sand, Black, Rat and Bear Rivers, flowing into Lake Winnipeg, have their sources in a large number of inland lakes, whose waters are frequented by whitefish, sturgeon, pickerel, trout and pike. Lake Debonne, especially, contains large quantities of sturgeon. It is the source of Rat River, and is situate 35 miles from the mouth of Bad Throat River. Mr. Wood caught a number of beautiful trout last summer in Sturgeon Sound Lake, the source of the Bad Throat River. Two of these fish weighed 27 lbs. each.

WATER HEN RIVER, LAKE WINNIPEGOOSIS.

Guardian J. H. Adams, whose division extends from Duck Bay to Lake Danphin, on the south-west side of Lake Winnipegoosis and to Water Hen Lake and River on the east side, states that fishing was good during the past year. The close season was well observed.

The catch is given as follows :—

	Lbs.	Value.
Whitefish	390,000	$19,500 00
Pickerel	30,000	900 00
Pike	20,000	400 00
Mixed fish	5,000	150 00
Total	445,000	$20,950 00

He reports 157,000 lbs. of whitefish sold to the trade at 2 cents per lb., which were taken by teams to the Straithclair Station, on the Manitoba and North-Western Railway, and Reaburn, on the Canadian Pacific Railway, and shipped thence to eastern and southern markets.

The number of men engaged in fishing was 50, and the number of boats and canoes 35; valued at from $10 to $25 each. There were 8,300 fathoms of gill-net used, valued at $1,500.

The purchasers of fish in this district were: John McKenny & Co., Adams, Ross & Co., and one or two other small dealers.

FAIRFORD, LAKE MANITOBA.

Guardian Wm Archer, whose division comprises Fairford and Lake St. Martin on Lake Manitoba, and Little Saskatchewan River which flows into Lake Winnipeg, reports whitefish more abundant during the months of October and November, than for years before. He estimates that the Indians caught forty thousand (120,000 lbs.) whitefish during the close season.

Mr. Archer gives it as his opinion that the extension of the close season from the 10th of November until the 1st of December is quite unnecessary in this division, as the whitefish have done spawning by the 15th of November at latest; it being a rare occurrence to find any fish containing spawn later than that date. He reports fish scarce during the month of December, as they had nearly all returned to deeper water. Not more than ten thousand whitefish (30,000 lbs.) were caught, averaging about 3 lbs. each, and about 2,000 lbs. pickerel.

He estimates the entire catch for the year as follows:—

	Lbs.	Value.
Whitefish	150,000	$3,750 00
Pickerel	50,000	1,000 00
Pike	22,000	220 00
Suckers	200,000	1,000 00
Gold Eyes	28,000	140 00
Total	450,000	$6,110

Of the above, 3,000 lbs. of whitefish and 5,000 lbs. of pickerel were sold to traders at Fairford.

The fishermen of this division use gill-nets, worked by means of small skiffs and canoes in summer and through the ice in winter. The quantity of nets used was 7,500 fathoms, fished by three bands of Indians and half-breed fishermen living in the vicinity. Some difficulty was experienced in preventing nets being set across the channel of the Saskatchewan River and the Narrows of Lake St. Martin's, thus obstructing the free passage of fish to and from Lake Winnipeg. This necessitated several trips to Fairford and to the mouth of the Little Saskatchewan River. The close season was observed; no fish being caught by any one except Indians, who fished entirely for their own use.

Fish sold to dealers at Fairford, have to be conveyed by teams to stations on the Canadian Pacific Railway; a distance of about 150 miles. The Indians realize about 2½ cents per lb. for whitefish at Fairford and Lake St. Martin. They have an abundant supply of food.

ROCK LAKE DIVISION, SOUTHERN MANITOBA.

Guardian W. J. Cooper, who has charge of the Rock Lake Division, in Southern Manitoba, reports considerable fishing in Swan, Rock and Pelican Lakes during the past year, principally in winter. The Crofters, who have settled in the vicinity of the latter, found the fishing resources of its waters quite valuable for the maintenance of their families, who are just tiding over their first year in Manitoba. The catch for the year is estimated as follows:—

	Lbs.	Value.
Pike	111,000	$2,220 00
Suckers	7,500	75 00
Total	118,500	$2,295 00

No fish were marketed in Brandon this year from this division. A small quantity was sold at Killarney, Cartwright and Pilot Mound, in the vicinity of the lakes, but the greatest part was used by the settlers themselves. A number of people residing in this section would like to see the pike destroyed in these waters, and whitefish, bass or carp substituted in their place.

SHOAL LAKE DIVISION.

Guardian J. A. Fraser, who has charge of this division for some distance north of Stonewall, reports very little fishing in Shoal Lake. The quantity caught was 53,600 lbs. of pike, 39,200 lbs. of which were sold to traders, and the balance used at home. He reports fish scarce at the Narrows, where they are usually caught for the trade; the water at that point being very shallow. The fishermen are all half-breeds, residing in the locality. There were only seven men engaged fishing, using seven gill nets and seven small boats.

BEREN'S RIVER DIVISION, LAKE WINNIPEG.

Guardian J. B. Johnson has charge of this most important division in the whole Province, covering, as it does a large portion of the lake, where the fishing companies operate in summer, and where a number of smaller fishermen and Indians fish during the winter. He reports that the summer season for whitefish opened much later than usual, owing to the ice in the lake preventing navigation. Fishing began at Beren's Island only on the 12th of June, but although the season was short, the catch was up to the usual quantity. Fishing at Reindeer Island was good throughout the whole season. It was also good at the Little Saskatchewan, although fish were reported scarce at the latter place towards the close of the season. The sturgeon fishery at Pigeon Bay shows a falling off. This fishing, which continued till the 12th of September, in 1889, only lasted till the 10th of August, in 1890.

Last year, too, there were two pound nets used, whereas this year there was only one. Sturgeon were more abundant at Blood Vein River this year than last. Pickerel fishing was better than for many years past.

Winter fishing commenced on 1st December, but was not as good as in previous years. The shortage in the winter catch of whitefish is accounted for by the long, open fall and the disturbed condition of the ice, caused by the heavy winds which prevailed at the beginning of December. The absence of snow, too, upon the ice, made some difference. Winter fishing for trade usually extends from the 1st of December to the 1st of February. This scarcity is the more remarkable from the fact that during the spawning season fish were noticed to be more numerous than during the year before.

Subjoined is a statement of the catch in this division:—

	Lbs.	Value.
Whitefish	1,763,182	$88,159 10
Pickerel	126,204	3,786 12
Pike	19,280	385 60
Sturgeon	129,500	6,475 00
Mixed fish	16,630	332 60
Total	2,054,796	$99,138 42

Of this quantity, 1,514,701 lbs. were caught by traders in summer, and 84,676 lbs. sold to small traders in winter. The remainder, 455,407 lbs., was used by Indians and others for home consumption.

SELKIRK ISLAND.

This island, which is situated 20 miles north-west of Grand Rapids, in Lake Winnipeg, is a commercial fishing station for a few weeks in the summer, during the hot weather. Robinson & Co. and the Selkirk Fish Company were the only firms fishing there. The Selkirk Fish Company made this island their headquarters for the whole season. They used four sail boats and 5,000 fathoms of gill nets. Their catch was as follows:—

	Lbs.	Value.
Whitefish	199,333	$9,966 65
Pickerel	4,000	120 00
Pike	1,072	21 14
Total	204,405	$10,107 99

This firm has one small freezer and ice-house on the island, with capacity for 5,000 fish.

W. Robinson & Co., who fished during the early part of the season at Beren's Island, transferred seven of their boats and 8,000 fathoms of gill-net to Grand Rapids, and, after fishing for about five weeks, caught.—

	Lbs.	Value.
Whitefish	249,477	$12,473 85
Pickerel	4,003	120 09
Total	253,480	$12,593 94

This firm has a freezer and two ice-houses at Grand Rapids, with a capacity for 50,000 fish.

BIG ISLAND—LAKE WINNIPEG.

Stefan Jonnson, Fishery Guardian for the Icelandic Division, on Lake Winnipeg, reports fishing about the same as last year. This division extends from Hoosavick, near the mouth of the Red River, along the west shore of the lake to Grindstone

Point. It includes the fishing stations of Deer, Black and Big Islands. There were 109 men engaged fishing in this division during the past year, of which 30 were licensed. Most of those were settlers of the Gimli district. They had 96 small boats, valued at $910, and 10,930 fathoms of gill-nets, worth about $1,000, in use during the season.

The catch for the year was as follows:—

	Lbs.	Value.
Whitefish	58,300	$2,915 00
Pickerel	34,660	1,039 80
Pike	65,450	1,309 00
Tullibee	70,700	1,414 00
Mixed fish	247,000	4,940 00
Total	476,110	$11,617 80

The boats used, with the exception of one boat of 5 tons, were all small skiffs, carrying only one man each. They fish only a short distance from shore and each boat has on an average 100 fathoms of nets. Four men worked the large boat during the summer and caught some 12,000 lbs. of whitefish. The rest of the whitefish were caught in winter through the ice. This officer reports having travelled all over his district during the months of October and November, and found the whitefish regulations, as to the close season, strictly observed.

All fish sold to the trade were marketed in Selkirk and Winnipeg. There were no whitefish caught this winter until the 3rd of December; the lake not having been frozen over until that date.

Of the catch enumerated above, the following quantities of the respective kinds were sold to the trade:—

	Lbs.
Whitefish	58,300
Pickerel	14,660
Pike	3,450
Tullibee	28,200
Total	$104,610

The balance, 371,500 lbs., was used for home consumption.

RED RIVER DISTRICT.

As the fishing in this district is somewhat limited, I did not deem it necessary to employ a guardian, and therefore took it under my own direct supervision. The catch consists principally of coarse fish, which are marketed in Winnipeg. The quantity caught was as follows:

	Lbs.	Value.
Whitefish	4,000	$ 200 00
Pickerel	15,000	450 00
Pike	6,300	126 00
Sturgeon	6,000	300 00
Mixed fish	110,800	2,216 00
Total	142,100	$3,172 00

Of this, 97,000 lbs. were sold to the trade and 45,000 lbs. used for home consumption.

THE NARROWS—LAKE MANITOBA.

Guardian H. Martineau reports that he visited the fishing grounds under his charge and found that the close seasons were generally well observed. In some instances he was compelled to give permission to destitute parties to fish with one common net of about 100 feet long, but of the requisite mesh. There were no fishing boats in this division, and the fishermen use only skiffs and canoes. The only saw-mill on Lake Manitoba is located at the north-east end of the lake. It was inspected during the summer, and found to be disposing of its sawdust in accordance with the law.

The number of men engaged fishing in this district is estimated at 75. Each man fishes, on an average, about five nets, making in all 375 nets, of an average length of 50 yards each, or 56,750 feet altogether. Estimating each 50 yards of nets at $2, would make a total value of $750.

There were 20,000 lbs. of whitefish marketed, of an average value of 3 cents per pound—say $600; doré, 8,000 lbs., at 2½ cents, $20; and 55,000 lbs. of pike (jackfish) at 1 cent, $550. Total value; $1,350.

The consumption of fish is estimated at 60,000 lbs. as follows:—

Whitefish	$1,800 00
Doré	250 00
Pike	150 00
Total consumed at home	$2,200 00

Fishing for trade is carried on principally during the winter, and most of the fish exported are caught under the ice. The boats used in fishing are small skiffs and canoes, of which there are about seventy, of a value of $8 each; total value, $580.

It is gratifying to note how careful the Indians are getting of not taking more fish than they actually require for their own use. This applies to the seasons when they are prohibited from doing so. It has at last dawned upon them that if they continue to catch fish as they used to do, depletion will follow. The close season for whitefish, as amended, exactly suits this locality, as observations made on the subject enable this officer to state. Dog trains are giving place to ponies. This is another reason why fish are not caught in such large numbers as in former years during the months of October and November, and hung up in thousands, solely for the purpose of feeding dogs during the winter. This officer has himself seen a dog devour two and three whitefish at a feed, and the fish were invariably full of spawn. When these injurious habits are done away with fish, will have a much greater chance of multiplying; and so long as wise and salutary regulations are enforced, it will be impossible to deplete these waters. Had this wholesale slaughter been allowed to continue, there could not have been fish left in three years. Even at the present time, they are so exhausted that it is difficult for a family to secure sufficient whitefish for their own use. Suckers and doré are, however, abundant; and there is no reason why whitefish should not be the same in a few years.

The Hudson's Bay Company, the Lake Manitoba Company, John McKenny and John Monroe were the only fish-buyers this year.

REPORT OF OVERSEER F. C. GILCHRIST.

FORT QU'APPELLE, ASSA., 31st December, 1890.

I beg to submit my annual report for the year ending 31st December, 1890, of the fisheries of the Qu'Appelle River, east of Pie-a-pot's Reserve and adjacent lakes. The catch, which was somewhat greater than last year, is estimated as follows:—

	Lbs.	Value.
Whitefish	25,000	$1,250 00
Tullibee	100,000	4,000 00
Pike	125,000	2,500 00
Pickerel (Doré)	10.000	300 00
Total	260,000	$8,050 00

There were twenty-five men engaged in the fisheries with twenty boats, value, $200; and 100 nets, value, $400. Licenses were issued to J. Leader, sen., for 600 feet of gill-nets, D. Thorne for 100 feet and S. Trask for a seine. The total catch of fish for the Indians was about 250,000 lbs. Eight gill-nets and two seines were confiscated and destroyed during the close season, and two persons were fined for infractions of the law. Owing to the dams and an increased rainfall, the level of the lakes was considerably higher than last year, and I hope that next season it will have regained its old-time height.

While whitefish are holding their own, tullibees are increasing at a rapid rate. I regret to have to state that neither the Indians, nor the majority of the officials over them, seem to evince the slightest desire to do anything towards the preservation of the fisheries of our lakes. When one lake becomes depleted, or nearly so, through fishing during the close season, the Indians move on to the next, and it will be but a question of time when all of our smaller lakes will be in a condition of sterility. I have been asked by officials of the Indian Department where they might obtain whitefish fry to re-stock some of the fished-out lakes. I always referred them to the Department. But I would suggest that all such applications be refused, unless the Indian Department agrees to compel the Indians to abstain from fishing during the close season. To give them the fry under any other terms would, in my opinion, be a sheer waste of money.

CONCLUSION.

In conclusion, I might say that fishing in the North-West is as yet carried on only on a small scale, being confined principally to Lake Winnipeg, where three companies operate. With an increase of population and further settlement of the country, the fishing industry must largely increase. The great lakes to the west and north, with their clear and cold waters, are teeming with abundance of good food fish, for which a ready market will be found in the United States in a few years. The varieties of fish consist of whitefish, sturgeon, pickerel and lake trout; salmon trout, too, are said to be very plentiful near the mouth of Nelson River, at Hudson's Bay. An officer of the Smithsonian Institution stated that if there were reciprocity in fish between Canada and the United States, the trade in pickled and preserved fish would give employment to 10,000 persons in the lakes and rivers of the Canadian North-West alone, which, he says, contains the best fresh water varieties, including many species of the salmon family. In the near future, the Hudson Bay Railway will be completed to Fort Churchill. This road will pass through a portion of country in which are found many lakes, some of them large, and all said to contain abundance of fish of various kinds. It will also give access to the salt water fish of Hudson's Bay, which contains the choicest codfish, salmon, herring, pollock, halibut, and many other varieties. Whales, porpoises, walruses and seals are plentiful in the Bay. It will be a great opening for the fishing industry. The development of this trade would inaugurate a new era in the North-West. It is estimated that this business alone would, in a few years, almost repay the cost of building the road and make Winnipeg one of the greatest fish markets in America.

I have the honour to be, Sir,

Your obedient servant,

ALEXANDER McQUEEN,

Inspector of Fisheries for Manitoba and N.-W. Territories.

RECAPITULATION.

	Lbs.	Value.
Whitefish	3,402,222	$170,111 10
Pickerel	505,707	15,171 21
Pike	744,082	14,881 64
Sturgeon	187,830	9,391 50
Tullibee	178,700	3,574 00
Mixed fish	948,730	18,974 60
Total	5,967,271	$232,104 05

APPENDIX F.

BRITISH COLUMBIA.

ANNUAL REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR 1890, BY INSPECTOR THOMAS MOWAT.

NEW WESTMINSTER, B.C., 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries of this Province for the past year, exclusive of Indian consumption, with statistical returns and condensed report from the guardians. These returns show an increase, as compared with the year 1889, as follows:—

Total value, 1890	$3,481,432 29
do 1889	3,348,067 61
Increase, 1890	133,364 68

This increase is attributed to an increased catch of sturgeon, halibut, herring, mixed fish, fur seals and fish oils.

The total capital invested in the fisheries as compared with 1889, is as follows:—

Capital invested, 1890	$1,511,279 00
do 1889	1,315,272 00
Increase, 1890	$196,007 00

This increase is accounted for by the erection of three new canneries, an additional number of boats, nets and seines, and 36 additional vessels of various sizes, with an increased tonnage of 535 tons; thus increasing the value in this branch alone by $75,675.

The number of hands employed in the fisheries and fur-seal hunting, as compared with last year, was as follows:—

Season, 1890	8,223
do 1889	7,789
Increase, 1890	434

This increase was due to the addition of new vessels to the sealing fleet and the building of new canneries.

SALMON.

This, the largest commercial fishery at present in the Province, shows a slight falling off in the output of canned, fresh and salted fish, but which, I am happy to say, is not attributable to the decline of the fishery, but simply to low prices ruling in the markets. The total output this season was 19,895,992 one pound cans, against 20,122,128, in 1889. Had the markets been as favourable during the early part of the season as they were in 1889, I feel safe in saying that there would have been not less than 30,000,000 lbs. of salmon canned.

The run of fish on the Fraser River commenced nearly a month later than usual, and although very few canners had made preparations for a large pack, they entertained fears of being unable to fill their orders, as the boats during the month of July, which is usually the best month for fishing, only averaged 10 to 12 fish each per day. This continued until about the 10th of August, when the largest body of fish that is known to have ascended it for some years reached the river, raising the average catch per boat from 300 to 500 fish per day. So sudden was this enormous rush of fish that before canners had time to order their boat hands to stop fishing, the canneries were overstocked, and, in some instances, fish had to be thrown away. This large run continued until the last of August, when the canners completed their packs; and it is safe to say that quite as many fish ascended the river as in 1889, except that the run did not last quite so long.

On the Skeena River the run was exceedingly large; canners used all the tins they had on hand, and only worked a portion of their boats, which averaged 500 to 700 fish per day. The Standard Packing Company, while packing their last 2,000 cases, kept their cannery supplied with four boats.

The Indians on the head waters of the Skeena were amply supplied with fish, and no complaints came from that source.

At River's Inlet and Alert Bay, fishing was good. All the canners in that section used up their supply of material.

At Naas River, the catch of each individual cannery was light; but the aggregate pack on the river was about the same as usual. I am under the impression that the four canneries now located at that point have a larger capacity than that a small river like the Naas is able to stand.

The comparative pack of the canneries on the Fraser River as well as on the coast is as follows:—

	One-pound cans.
Fraser River—17 canneries	11,742,600
Coast—17 canneries	8,153,392

Herewith is a return of all the canneries operating in this Province, with the names of owners, or part owners, location, and amount of fish packed each season since they commenced operations. The names of some of the canneries have been changed since they commenced operations.

In connection with the yield of the Fraser River, an examination of the above schedule from 1887 to 1890, covering a period of what canners are pleased to call two poor years and two good ones, shows that the proportionate pack in any other four years, since canning operations began in this Province, fails to give similar results. What then, is the cause of such a large increase during the past four years? It is, I claim, solely attributable to artificial stocking and to better protective regulations. To prove this, I subjoin a table showing quantity of salmon fry distributed since the hatchery has been put in operation.

Salmon fry distributed from the Fraser River hatchery:—

1885	1,800,000
1886	2,625,000
1887	4,414,000
1888	5,807,000
1889	4,419,500

The above schedule shows that the first fry were put in the Fraser River during the spring of 1885, and as 1887 was looked to by the canners as a probable poor year, it turned out, to their great surprise, a good one. Therefore, from the experience which I have gained on this coast, as well as on the Atlantic, I contend that the increase in the run of fish in 1887 is principally due to the output of fry from the hatchery in 1885. My views in this respect are borne out by Mr. Livingstone, who established and operated the Macleod River hatchery in the United States. He

affirms that a portion of the Pacific salmon will return in three years to its native streams. It is thus evident that since 1887, the constant increase in the Fraser River pack is largely due to artificial fish breeding. I must therefore again urge upon the Department the necessity of establishing a hatchery with a capacity for hatching 25,000,000 eggs, in order to maintain an industry having an annual commercial value of $1,500,000 for the district of New Westminster alone, besides the surplus that feed one-third of the Indian population of this Province.

The letters published in last year's report from the various canners prove the evident success of the hatchery; but among these is one from Mr. D. J. Munn, who inclines to the belief that the "Quinnat" salmon takes longer to mature than the "Saw-quai." The year just passed, has clearly proved that in no other corresponding year were either "Quinnat" or "Saw-quai" so plentiful. The canners have reaped a rich harvest during the last four years. If their own statements in this respect can be relied upon, each cannery made from $15,000 to $75,000 per season; still, with all these advantages, they do not appear satisfied, because the regulations framed by the Department did not allow them to fish just as they wished, regardless of future results.

While trying to explain my various reports, the extent and importance of this industry, and pointing out the decline in the salmon fisheries of the Columbia, Sacramento and other large rivers in the adjoining States as the signal for action, the Minister decided, upon a request from the canners, whose views did not coincide with mine, to send some one direct from the Department to visit the Province and enquire fully into the matter. Mr. Samuel Wilmot, Superintendent of Fish Culture for the Dominion, whose report I presume will be published, was the officer chosen for such purpose. The Fraser River canners, finding that his views did not coincide with theirs, published a letter in the Victoria *Colonist*, under the signature of Mr. D. J. Munn, charging the Government, Mr. Wilmot and myself with inexperience and want of knowledge. In a leading article, the *Colonist* set forth Mr. Munn as a representative canner—he, a young man who came from Prince Edward Island about six years ago, who, I venture to say, never visited the spawning beds of the salmon in this Province, and whose knowledge of salmon in Prince Edward Island, one must admit, would be limited.

From the most interesting reports of the Fish Commissioners for the States of Oregon and Washington I glean the following information: The pack at Mr. R. D. Hume's cannery on the Rogue River was 24,000 cases. In Mr. Hume's letter, published in my report of last year, it is said that when he first commenced operations in 1877 he had great trouble in packing 3,500 cases. Since the establishment of the hatchery, the pack has increased every year.

The Columbia River pack amounted to 499,000 cases this year, an increase of 70,000 cases over that of last year. This, the Commissioners credit to artificial stocking from the Clackamas Hatchery, during the spring of 1887.

The Alaska pack amounted to 650,000 cases, a shortage of 35,000 cases, which is attributed to over-fishing, want of protection and no hatchery.

A pamphlet printed by the Fishermen's Protective Union of Columbia River gives a full description of the fishing done and appliances used on that stream, as follows:—

"During the past twenty-four years, there were canned and put up in tins about 27,000,000 salmon; a number so vast that the mind is hardly able to grasp its enormous magnitude. The product of these fish has been 8,904,134 cases of tinned salmon or 427,398,440 cans, the weight of which would be equal to 330,000 tons, and to carry the same would require 29,280 railroad freight cars or 1,484 trains of 20 cars each; the whole length of which would be 250½ miles. It is difficult to comprehend the enormous quantity here set forth.

"The total tonnage of all the materials used during the past twenty-four years (including coal and wood), has been no less than 740,000 tons; the tonnage of materials and the finished product amounted in the aggregate to the vast sum of 1,070,000 tons.

"Such are the results produced by this industry, which the State has neglected to protect. Such is the past record of this great interest, and here naturally recurs the question: What will its future be? To this we answer: that if the States of Oregon and Washington enact proper laws for the protection of the young fish; and prohibit the murderous fish-wheels from continuing their work of destruction and desolation, and also make proper provision and appropriations for one or more hatcheries, of such capacity as will insure the re-stocking of the river—say, with the means of hatching out annually, 30,000,000 fry or small fish—then, indeed, we may venture to predict what the future will be. If these methods are adopted, it is safe to say that in less than seven years from date, the Columbia River salmon fisheries will be able to supply the world with salmon, both fresh and canned. The whole production of canned salmon of the world averages about 1,200,000 cases per annum, all of which can be easily obtained from the Columbia if, as above said, proper legislation is enacted for the preservation of the fishery. To obtain 1,500,000 cases of salmon, or about 73,000,000 pounds of canned fish, we would need about 4,800,000 salmon, all of which can be gotten from the waters of the river and estuary, subject to the conditions and legislation above described. And again, with such a large amount of fish propagated, the article will naturally be produced cheaper than to-day, and thus can be made a cheap and wholesome, every day article of diet, if the Legislatures of the States or Oregon and Washington, respectively, will rise equal to the occasion, and preserve to coming generations this magnificent industry. As for us and our association, we mean to do our part to arouse the now dormant opinion of the States of Oregon and Washington to a proper realization of the magnitude of the fisheries, and to insist upon proper legislative protection to the fish and the fisheries. There are no less than 10,000 persons who depend upon the fisheries for their livelihood, not to mention the vast numbers who are interested indirectly; and why should the interests of a few monied men have more weight in the halls of legislation than the voices and interests of thousands of fishermen?

"The Government of the United States has done its share in protecting and preserving the Oregon and Washington salmon fisheries, and we confidently expect the latter States to do the same. We invoke the aid and assistance of every public spirited citizen of these two States, and believe that intelligent public opinion will indorse our attemps to create a sentiment in favor of restoring, fostering and enhancing the magnificent salmon interest of the great Pacific North West.

"The preservation of our fisheries is a subject of paramount importance. To the statesman and to the political economist there is no subject of greater moment than how to obtain a proper supply of food for the nations; and surely, an enlightened policy ought to show to our local Legislatures the need of preserving and, if possible, increasing the natural food supply. Year by year, the area available for cattle farming becomes less and less, and meat is steadily increasing in price, and consequently getting to be more of a luxury, especially in our large cities and populous States; but here is the ocean farm, with its untold millions of tons of a good and healthy article of diet, which needs no cultivating, yielding its great harvest, unaffected by droughts, summer's heat or winter's blasts.

"Surely" it is high time that protection was extented to this species of farming-*i.e.*, in the only way such protection can be given, namely, doing away with all injurions appliances for taking the fish, and making it a felony to have young salmon in the markets, or to capture or kill the same.

"But few persons have any idea of the magnitude of the salmon fisheries of the Pacific coast States and the territory of Alaska. From the latest dates available, we learn that there is a total of sixty-two salmon canneries, excluding thirty canneries located in British Columbia. Of the former, twenty-four establishments are located on the Columbia River, and on the Oregon and Washington sides respectively; ten are located at various points along the Oregon coast; seven at varions points and places in the new State of Washington; nine in California, and thirty-six in the territory of Alaska. Here is an industry which has been wholly developed to its present great proportions within less than a quarter of a century, the capital of

which to-day exceeds $5,000,000, and gives employment to over 15,000 persons during the canning season. But for this great industry, over 7,000,000 pounds of salmon which have been canned and consumed by the world would have been lost to the great army of consumers the world over. Think of it! this single food-producing industry has, in less than twenty five years, added 760,000,000 pounds, or 380,000 tons, to the world's food supply. What has been done in such a comparatively short period can be done again; and the result ought to be at least 1,000,000,000 pounds for the next twenty-five years, providing the fish and the fisheries receive the proper legislative care and protection, as formerley out-lined in this pamplet.

"The preservation of the fisheries of our entire nation ought to demand the most earnest attention of Congress, and when the fisheries receive the legislative recognition and protection so long deferred and so much desired we shall have the Atlantic and the Pacific coasts of our country, and every estuary, white with the sails of innumerable fishing craft. Then, there will be no trouble about getting seamen to man our national vessels, and the days of our dependence upon foreign seamen will be ended."

SCHEDULE of Salmon Canneries in British Columbia, giving Location and in Cases of 48

Name of Cannery.	Names of Owners.	1876.	1877.	1878.	1879.	1880.
Fraser River.						
Ewen's Cannery	A. Ewen	3,125	8,334	13,700	8,380	6,191
Garry Point	C. G. Hobson and others					
British American Packing Co. (Limited)	B. Young and others					
Wellington Packing Co.	T. Ladner and others					4,333
Richmond Cannery	J. H. Todd & Son.					
Beaver do	J. H. Todd & Son.					
Britannia do	Duncan, Batchelor and others.					
Sea Island do	D. J. Munn and others.					
Bon Accord do	D. J. Munn and others.				6,850	9,722
British Columbia Packing Co.	P. Burr and others		11,966	12,625	5,200	2,048
Canoe Pass Canning Co. (Ltd.)	D. Drysdale and others					
Delta Canning Co.	J. A. Laidlaw and others			16,500	11,500	9,500
Phœnix Cannery	M. M. English		24,000	17,166	8,813	5,061
Harlock Packing Co.	H. E. Harlock and others					
Dominion Cannery	J. A. Laidlaw and others			13,570	5,585	
Fraser River Cannery	British Columbia Canning Co. (Limited).	4,122	11,087	7,885	4,162	5,300
Wadham's Cannery	E. A. Wadhams					
Skeena River.						
Windsor Cannery	British Columbia Canning Co. (Limited).			3,000	4,791	9,770
Inverness do	Turner, Beeton & Co.		3,000	5,500	5,812	9,924
Balmoral do	Cuthbert, & Byrne					
North Pacific Cannery	Carthew and others.					
British American Packing Co.	Gus. Holmes and others					
Skeena Packing Co.	R. Cunningham & Son					
Standard Cannery	J. A. Laidlaw and others					
Naas River.						
McLellan's Cannery	A. J. McLellan					
Naas River do	British Columbia Canning Co. (Limited).					
Cascade do	J. A. Laidlaw and others					
Rivers Inlet.						
Rivers Inlet Cannery	British Columbia Canning Co. (Limited).					
Victoria do	British Columbia Canning Co. (Limited).					
Wannock Packing Co.	McDowell and other					
Alert Bay Packing Co.	S. A. Spencer.					
Bute Inlet Cannery	C. G. Hobson and others					
Lowe's Inlet Canning Co.	R. Cunningham & Son & Rood.					
Price's Salmon Cannery	H. M. Price and others.					

Names of present Owners and each Season's Pack since their Establishment, one lb. pound Cans.

1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Totals.
18,900	20,000	10,438	9,600	23,000	15,000	23,000	10,470	33,700	28,600	232,438
.....	.....	.....	.....	.....	.....	.....	.....	15,106	17,570	32,676
.....	15,000	4,600	.....	12,000	6,000	11,000	10,000	25,000	16,000	99,600
17,590	20,478	10,055	8,780	12,500	11,250	11,500	7,200	20,100	13,000	136,786
.....	9,600	9,200	4,952	7,850	10,127	10,150	7,804	17,170	14,380	91,233
.....	.....	.....	.....	.....	.....	.....	.....	14,253	14,500	28,753
.....	.....	.....	.....	.....	.....	.....	.....	.....	12,753	12,753
.....	.....	.....	.....	.....	.....	.....	.....	18,225	14,455	32,680
21,000	15,401	9,630	.....	.....	6,500	12,525	5,140	17,771	12,343	116,882
19,987	21,500	5,250	.....	12,952	5,000	10,000	5,000	21,056	13,340	145,924
.....	.....	.....	.....	.....	.....	.....	.....	14,300	11,300	25,600
19,989	26,700	11,735	.....	21,315	7,506	10,324	6,771	22,150	13,542	177,532
18,500	26,000	10,401	4,055	.....	10,000	9,000	4,000	20,917	14,062	171,975
.....	7,560	6,170	.....	.....	.....	6,500	4,440	15,480	10,250	50,400
16,350	27,365	11,440	6,650	.....	7,894	10,324	6,771	22,150	13,542	141,641
10,200	9,600	4,926	.....	.....	5,300	5,915	3,300	12,410	12,000	96,207
.....	.....	11,856	.....	.....	14,600	9,850	5,720	18,334	13,000	73,360
10,000	12,385	7,304	10,546	.....	.....	12,000	12,872	8,772	12,850	104,290
11,560	12,137	7,480	12,345	6,300	10,587	11,729	13,805	8,125	13,750	132,054
.....	.....	4,173	7,351	.....	.....	8,350	10,660	9,081	12,845	52,460
.....	.....	.....	.....	.....	.....	.....	.....	9,995	15,000	24,995
.....	.....	5,200	11,297	.....	12,000	12,965	17,709	12,332	14,100	85,603
.....	.....	7,000	12,247	6,600	15,000	13,548	15,060	10,100	12,500	92,055
.....	.....	.....	.....	.....	.....	.....	.....	.....	10,600	10,600
.....	6,500	9,400	8,500	.....	.....	.....	12,318	10.200	12,500	59,418
.....	.....	.....	.....	.....	.....	.....	.....	5,000	5,200	10,200
.....	.....	.....	.....	.....	.....	.....	.....	4,600	7,000	11,600
.....	5,635	10,780	11,887	.....	15,000	7,023	12,000	16,700	13,500	92,525
.....	.....	.....	.....	.....	.....	.....	.....	.....	10,000	10,000
.....	.....	.....	8,496	.....	.....	4,180	8,000	9,022	10,000	39,698
5,500	4,600	6,400	7,000	6,000	1,200	4,200	5,000	7,162	7,339	54,401
.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	3,000
.....	.....	.....	.....	.....	.....	.....	.....	.....	6,000	6,000
.....	.....	.....	.....	.....	.....	.....	.....	.....	3,721	3,721

SCHEDULE of Salmon Canneries in existence in **British Columbia** in the Season of 1890.

Name of Owner.	Name of Cannery.	Where Located.	Year first Operated.	No. of Boats Licensed.	No. of Hands Employed.	Total Pack Cases.
Fraser River.				1889.		
M. M. English	Phœnix Cannery	Lulu Island	1877	22	290	20,917
J. H. Todd & Son	Richmond Cannery	do	1882	20	175	17,170
do	Bearer Cannery	do	1889	18	205	14,253
E. A. Wadhams	Wadham's Cannery	Ladner's Landing	1883	24	266	18,334
Ben. Young, manager	British American Packing Co. (Limited)	Canoe Pass	1882	24	335	25,000
D. Drysdale, manager	Canoe Pass Canning Co. (Limited)	do	1889	18	245	14,300
R. P. Rithet H. E. Harlock	Harlock Cannery	Ladner's Landing	1882	20	166	15,480
British Columbia Canning Co., of London, Eng	Fraser River Cannery	Deose Island	1876	20	229	21,056
C. J. Hobson C. S. Windsor H. O. Bell Irving E. Renney	Garry Point Canning Co	Lulu Island	1889	18	240	15,106
W. W. Wells E. H. Tophan H. W. Tophan						
P. Birrell B. Douglas H. Elliott	British Columbia Packing Co	Anniville	1878	22	185	21,056
W. A. Duncan J. Batchelor Eli Harrison	Britannia Cannery	Lulu Island	1890	17	192	12,753
A. Ewen & Co.	Bon Accord Fishing Co	Tree Island	1879	22	240	17,771
do	Sea Island Canning Co	Sea Island	1889	18	225	18,225
R. P. Rithet F. Page Thos. E. Ladner	Wellington Packing Co.	Canoe Pass	1880	24	316	20,100
Alex. Ewen	Ewen's Cannery	Lion Island	1876	31	380	33,700
R. P. Rithet Jas. A. Laidlaw	Delta Canning Co.	Ladner's Landing	1878	24	320	22,150
R. P. Rithet Jas. A. Laidlaw	Laidlaw & Co.	Sopperton	1881	24	320	22,150
Alert Bay.						
S. A. Spencer	Alert Bay Packing Co.	Malcolm Island	1881	S. 2	71	7,162
Bute Inlet.						
C. G. Hobson C. S. Windsor	Bute Inlet Cannery	Bute Inlet	1890	G N 15 S. 1	130	3,000
Skeena River.						
British Columbia Canning Co. (Ld.) of London, Eng.	Windsor Cannery	Aberdeen	1878	40	199	8,772
H. C. Beeton J. H. Turner	Inverness do	Inverness	1875	40	225	8,125
R. S. Byrnes M. Cuthburt	Balmoral do	Balmoral	1886	40	225	9,081
John Mohrer A. R. Johnston J. E. Jinkins J. A. Carthew A. G. McCandless	North Pacific Canning Co. (Limited)	Inverness	1889	40	225	9,995
Gus. Holmes, manager	British American Packing Co. (Limited)	Port Essington	1883	40	225	12,337
R. Cunningham & Son	Skeena Packing Co.	do	1883	40	225	10,100

SCHEDULE of Salmon Canneries in existence in **British Columbia**, &c.—*Con.*

Name of Owner.	Name of Cannery.	Where Located.	Year first operated.	No. of Boats Licensed.	No. of Hands Employed.	Total Pack Cases.
Skeena River—Con.				1889.		
R. P. Rithet Jas. A. Laidlaw John Irving	Standard Cannery		1890	29	110	10,600
Low's Inlet.						
R. Cunningham & Son John Rood	Low's Inlet Canning Co	Low's Inlet	1890	S. 2	113	6,000
Smith's Inlet.						
R. P. Rithet Jas. A. Laidlaw	Quashella Packing Co	Smith's Inlet	1883	S. 1	12	.....
River's Inlet.						
British Columbia Canning Co. (Ld.) of London, Eng.	River's Inlet Cannery	Head of River's Inlet	1882	40	204	16,700
do do	Victoria do	Mouth of Wannock River	1882	40	132	10,000
A. McNeill W. McDowell S. McDowell	Wannock Packing Co	Midway of River's Inlet	1884	30	185	9,022
Naas River.						
A. J. McLellan	McLellan's Cannery	Naas Harbour	1888	30	200	10,200
British Columbia Canning Co. (Ld.) of London, Eng.	Naas River do	do	1881	34	193	5,000
R. P. Rithet Jas. A. Laidlaw D. R. Harris M. Strouse	Cascade do	Echo Cove	1889	30	67	4,600
Gardner's Inlet.						
Archibald Coats H. M. Price P. Coats W. Coats	Price's Salmon Canning and Preserving Co	Gardiner's Inlet	1890	25	88	3,721

HALIBUT.

A slight increase in noticeable over the yield of last year, owing principally to the organization of a fishing company, which made several trips to the northern end of Vancouver's Island with a small steamer, generally succeeding in getting full fares, which were disposed of principally in the local markets of Vancouver and Westminster; some being shipped east of the mountains. The Victoria and Puget Sound markets were principally supplied from the Cape Flattery banks. It is expected that this fishery will develop into large proportions during the next few years.

SKIL.

The trade in this fish shows a decrease of 786 barrels. The cause of this decline is due to the unsuccessful attempts by merchants to find markets for those caught in 1889. This may seem strange; for once a purchaser has tried this fish he wants more, and with a little more push on the part of our merchants, I see no reason why

skil could not be introduced in the American markets to replace mackerel which is now largely imported from England. From recent conversation with Mr. Lundberg, I learn that the skil market is looking brighter, and there is yet a chance of a good trade being done.

OOLACHANS.

The returns of these fish show a decline in fresh, salted and smoked, due to comparative failure in the fishery on the Fraser River, and a light run on the Naas. As steamboat traffic on the Fraser increases, the number of fish seems to diminish, and it is seldom now that the supply equals the demand. On the Naas, the wanton waste previously reported still continues, and in order to check the evil, an officer will have to be stationed at that point, about the time when the ice disappears from the river ; as it is mostly through the ice that the Indians do their fishing.

SHAD.

No information reached me of any of these fish having been caught in the Fraser River, nor do I know of any being taken by seine fishermen in the vicinity of Victoria ; but I presume, as in other years, scattering ones were caught.

The Fish Commissioners for the States of Washington and Oregon report about 50,000 lbs. being taken this season in the Columbia River, although no regular fishery was carried on for them. These fish were caught in the salmon traps of Baker's Bay, and are the result of fry planted there by the Fish Commissioners, a few years ago.

It is important that the Department should put a few hundred thousand shad fry in the Fraser River, as these fish are admirably adapted for these waters ; and with present railway communication from New Westminster direct to Portland, the ova or fry could be had through the courtesy of the Fish Commissioners and conveyed direct here by rail. Shad is a rapid breeder, depositing its eggs on sandy bottoms.

SMELTS.

The catch of this fish has again doubled that of last season. This may be accounted for by the failure of the "Oolâchan" run. The largest portion of the supply taken is used in local markets, some being shipped to the cities of Puget Sound.

HERRING.

The supply of this fish nearly doubled that of last year, there being a better local demand for them, and a few being shipped to the prairie towns. Very few were salted, owing to the poor quality of the fish in the southern portion of this Province.

STURGEON.

The increase in the catch of these fish over last season is not large. They were all caught, as usual, by salmon nets and set line. There is no regular fishery for them. Most are consumed in local markets, a few being shipped east as far as Winnipeg.

The Fish Commissioners for Columbia River state that last year, there were caught and shipped 3,660,000 lbs. of Sturgeon, 4,725 lbs. of caviar, the total value amounting to $140,595.75. There is no reason why the same quantity of fish could not be taken from the Fraser River and its lakes.

MARINE FURS.

The value of the marine fur products is $510,111, being an increase of $157,661 over the past year, due to the following causes : An advance of $1 per skin in the price of fur seals, an increase of 11,181 skins in the catch, and an increase of 3,200 in the catch of hair seals.

I append a schedule, showing the detailed catch of the sealing fleet for the season of 1890 :—

RETURN showing the Number of Vessels, Boats, Canoes and Men engaged in the Marine Fur Fishery with Products and Values, for the Season of 1890.

Name of Vessel.	Name of Owner.	Tonnage	Value of Vessel.	No. of Boats.	Value of Boats.	No. of Canoes.	Value of Canoes.	No. of Men.	No. of Spring Catch.	No. of Sand Point Catch.	No. of Behring Sea Catch.	Total No.	Total Value.
			$		$		$						$
C. H. Tupper	Walker & Co	99	13,000	7	700			23		571	796	1,367	15,037
Viva	Carne & Munsie	92	12,000	6	600			23	262	436	2,015	2,713	29,843
Lily	W. Boons	69	8,500	1	100	8	400	25	122		500	622	6,842
Ariel	S. W. Buknam	90	9,000	1	100	11	500	28	220	349	1,137	1,706	18,766
Sea Lion	S. Collins	50	7,000	5	500			18	254	817	774	1,845	20,295
Mary Taylor	Carne & Munsie	42	8,000	1	100	10	500	23	104	302	592	998	10,978
Annie C. Moore	Hackett & Co	113	15,600	7	700			22	90	703	630	1,423	15,658
Walter L. Rich	Cameron & Munro	79	7,000	6	600			20	122	562	633	1,317	14,487
E. B. Marvin	Marvin & Co	117	12,000	7	700			26	368	878	918	2,164	23,804
Kate	Chas. Spring	58	4,000	5	500	11	500	27	156	511	230	897	9,867
Pioneer	Carne & Munsie	66	10,000	5	500			20	235	716	984	1,935	21,285
Favorite	Chas. Spring	64	8,000			13	500	32	356	981	1,116	2,453	26,983
Ocean Bell	R. Hall & Co	83	10,000	7	700			23		946	480	1,426	15,686
Theresa	Babington & Co	63	10,000	7	700			23	175	569	450	1,194	13,134
Sapphire	Marvin & Co	124	14,000	1	100	18	900	42	119	1,378	745	2,242	24,662
Triumph	do	98	14,000	7	700			23	182	1,018	473	1,673	18,403
Maggie Mac	Dodd & Co	70	10,000	6	725			20		1,200	752	1,952	21,472
Juanita	J. Kinsman	49	6,000	1	100	9	450	22	97	311	770	1,178	12,958
W. P. Sayward	Lang & Moss	59	8,000	1	100	8	400	22	154	339	459	952	10,472
Catherine	J. L. Penny	81	5,500	1	100	10	500	23	380	345	945	1,670	18,370
Beatrice	W. Grant	66	7,000			12	600	29	220	710	854	1,780	19,624
Mary Ellen	M. Moss	73	7,250	7	700			23	115	951		1,066	11,726
Penelope	do	69	10,000	5	500			22	148	578	445	1,171	12,881
Minnie	V. Jacobosen	46	8,000	1	100	8	400	21	300	764	1,467	2,531	27,841
Aurora	T. Harold	41	8,000	1	100	10	500	24	165	797		962	10,582
Wanderer	H. Paxton & Co	32	5,000	1	100	8	400	19	82			82	902
Venture	D. Urquhardt	48	5,000	4	400			15	94			94	1,034
Mountain Chief	Nawassune	23	1,000			5	200	12	60			60	660
Letitia	P. Quachynne	28	1,000			4	160	10	70			70	770
From River Inlet to Skeena River												200	2,244
Estimate of Fur Seals purchased from Indians and others												5,000	55,000
Estimate of Hair Seals												10,200	7,650
do Sea Otter												102	10,200
		2,042	248,250	107	10,825	145	6,910	678	4,650	16,732	18,165	54,853	510,111

RETURN showing Fur Seals caught by Foreign Vessels and disposed of in Victoria, B.C.

Name of Vessel.	Name of Owner.	No. of Sand Point Catch.	No. of Behring Sea Catch.	Total No.
Mattie T. Dyre	American	74		74
San Diego	do		579	579
Geo. R. White	do		400	400
Harry Davis	do		1,500	1,500
Venture	do		564	564
Adele	German	220	431	651
		294	3,474	3,768

It will be noticed that the names of vessels and owners are given together, with the tonnage, as in previous reports, while the number of boats and canoes is kept separate and the total values given. The value of vessels comprises the fit out with firearms, ammunition, &c., when prepared for a hunting voyage.

The catch of seals has been divided into three classes, viz.:—Spring catch, Sand Point catch, and Behring Sea catch. The spring catch comprises the seals captured after the vessels have left Victoria, say 1st February, hunting as far south as Lower California; Sand Point catch includes the skins taken off the west coast of Vancouver Island, and the Behring Sea catch those killed in Behring Sea proper. It will be noticed that the two first named kinds exceeds the Behring Sea catch by 3,217 skins, and, as is usually the case, I learn from dealers that the percentage of grey pups is larger in the Sand Point catch than in that of the Behring Sea.

On comparing the schedule with that of 1889, it will be seen that the sealing fleet was increased by six vessels; and, from present outlook, there will likely be a much larger increase during the coming season. I understand that there have already been purchased three American, a Japanese and five Nova Scotia schooners, for this trade. The names of the Nova Scotia vessels now on their way, are:—"Union," "Geneva," "Maud S," "Otto" and "Annie M. Paint," besides a steamer recently fitted up for the same purpose.

I was informed that the seals in Behring Sea changed their feeding grounds last season from the south-west to the north-east of St. George and St. Paul's Islands; the large catches being made at the north east end. The cause of this change is said to be on account of sub-marine volcanic eruptions, which drove away the feed from the banks. I understand that Customs Collector Milne, of Victoria, has given a detailed report on this fishery, and there is no need of my dwelling further on it. As I am situated here, and so seldom able to visit Victoria, I find it extremely difficult to get reliable information.

DOG FISH.

These fish are still found in abundance. The chief purpose for which they are used is to make oil, the supply of which increased this season by 24,884 gallons over 1889. This industry is capable of large development. Not only is there an inexhaustible supply, but there is good demand for the oil

WHALES.

No attempts have been yet made by our people to develop this industry which is capable of vast extension.

TROUT.

The demand for these fish is still on the increase—so much so, that the supply is insufficient.

MIXED FISH.

These consist of sardines, anchovies, whitings, flounders, soles, skates and various other small fish, of which, on the whole, there was an increase, due to a larger trade by an increased population.

SHRIMPS AND PRAWNS.

It is difficult to obtain reliable data of the yield of these fish, as they are principally caught by Italians, from whom very little, or no, information can be had.

LOBSTERS.

Fish Commissioner Crawford, for the State of Washington, states in his report that a number of young lobsters were seen by fishermen in Port Townsend and Shoal Water Bays. Two gentlemen, who can be relied upon, reported having taken specimens at Hoquim River and Peaterson's Point. These are said to be the offspring of the lobsters planted by United States Fish Commissioners about two years ago. I hope that when the Department lobster hatchery is in working order, it will be possible to send a good supply of the young ones to this coast.

OYSTERS.

The supply has increased by about 500 sacks over that of 1889. A sack contains 2 bushels. The supply is still very short of the demand. This is becoming more apparent every season, as the population increases, which causes the importation of large quantities of oysters from the Sound bed.

Fish Commissioner Crawford reports that 345 acres are under artificial cultivation in the State of Washington, with an average output of 350 sacks per week during eight weeks in the year, giving employment to about 125 persons, and worth to the State $21,888. It is well to know what our neighbours are doing, that we may profit by their experience. The regulations adopted by the Department for the cultivation of oysters is a move in the right direction, which will be the means of restoring a number of depleted beds to a state of productiveness.

CLAMS AND MUSSELS.

The consumption of these bivalves has increased; the supply of clams being abundant and of good quality. I see by the Oregon Commissioner's reports that a new and better variety of the eastern clam was introduced in their waters, which has thrived splendidly and is favourably accepted. When our own system of protection is in working order, it would be well to have a few beds stocked with this variety of clams.

PROTECTION.

The fisheries protection service on the Fraser River was much more efficient than in 1889. The steam launch rendered good service, and I do not think there were so many who fished without a license as previously, considering the large run of fish in the river.

The Naas River was guarded by Mr. McNeish, whose report is annexed, and who states that the regulations were well enforced.

The Skeena was under charge of Mr. M. K. Morrison, whose report is also appended; but owing to the lateness of his appointment, fishing had commenced before he became fairly established. He reports that owing to the exceedingly large run of fish, the limit of boats was not exceeded.

Guardian Barkeley, Courtney River, reports that the regulations were strictly observed and that the lakes were carefully guarded against the use of explosives by

miners; also, that the run of salmon in Courtney and Campbell Rivers was good, and that parties intend building canneries at both places. He further states that the Indians caught a large supply of fish for their own use.

Guardian Malpass has recently been appointed to replace Guardian Good. He appears active, and reports the regulations being well enforced.

Guardian Lomas sends no report on the Cowichan, but from his private letters, I infer that a fair supply of fish ascended the Cowichan River and that a number were caught with the fly in Cowichan Lake. The reports of Guardians *Green*, *Morrison*, *McNeish* and *Roxburgh* are appended.

I trust that the proposed system of protection, when properly enforced, will have the effect of keeping our numerous rivers and lakes in a much better state of preservation, and enable those who are now employed in the business to continue it profitably, while learning something which may be of use to those who may come after them.

I have the honour to be, Sir,
Your obedient servant,
THOS. MOWAT,
Inspector of Fisheries for British Columbia.

REPORTS OF THE DIFFERENT FISHERY GUARDIANS TO THE INSPECTOR OF FISHERIES IN BRITISH COLUMBIA.

LOWER FRASER RIVER.

C. F. Green, Fishery Guardian.

I beg to state that owing to the short time I was employed as Fishery Guardian for this district, I am unable to make any report, except on the "Saw-Quai" run of salmon.

When I received my appointment as guardian, on 25th July, I found the fishing in full swing, and it continued so till the latter end of August, thus enabling the canneries, in most cases, to complete their pack, although they did not pack as large a number of cases as they did the previous year, owing, I believe, to the dull state of the salmon market.

I consider that the weekly close time this year was better suited than during the previous year, as it enabled the guardians to see that the boats started out during daylight, and the fishermen could see the flags hoisted at different points to denote when it was 6 p.m. Sunday. I think if fixed later in the evening it will be impossible to stop fishing during close time, as it will be dark so long before the time expires, and fishermen are bound to take any advantage they can. I may state that I always found the cannery men trying their best to carry out the fishery regulations and to assist me in enforcing them.

RIVERS INLET.

William Roxburgh, Fishery Guardian.

In accordance with instructions received, I proceeded from Westminster to Rivers Inlet, and arrived there on 11th Jnly. The fish had been running a week previous to my arrival, although not plentifully, and the canneries were all in operation.

Owing to scarcity of hands, the usual number of Indians not having come round, and Chinamen or white men not being obtainable, the canneries could not at any time this season fish all the boats for which they had taken out licenses, but the fish were so abundant and the run continued so long, that they were enabled to complete their pack.

The cannery proprietors, by taking the fishermen from the boats and employing them in the canneries when the catch of fish was in excess of the canning capacity, avoided all waste of fish, and the weather keeping cool, there were none destroyed after capture.

The fish being easily obtainable, there were no attempts or instances of trespass, and the canneries, during the season, worked quite in accord with the Act and regulations.

The offal at the Viceroy Cannery, at the mouth of the O-wee-kay-no River, should be dumped into a scow and carried into deep water, as the beach is flat and the sea throws it up and leaves it there. At the other canneries it washes into deep water and is not so offensive.

SKEENA RIVER.

M. K. Morrison, Fishery Guardian.

I am pleased to report that this season has been the best ever known on the Skeena River for salmon. Twenty fishing boats were sufficient to keep each cannery packing from 500 to 700 cases per day. Every Saturday, the canneries were filled up with salmon; all were forced to keep the boats off, both on Saturday and Sunday, after the first two weeks. The Standard Cannery put up the last 2,000 cases with only four boats fishing.

Owing to the wreck of the "Sardonyx" the regulations and forms of applications did not get to the Skeena before July, two weeks after the fishing began. Indians had been to me and gave me the license fee, asking me to get them a license as soon as I could. I sent in their applications as soon as possible.

Fishermen and cannery men are well pleased with this season's fishing.

NAAS RIVER.

Thos. McNeish, Fishery Guardian.

I beg to submit the following report as Fishery Guardian on Naas River for the past season.

I arrived at Naas Harbour on 4th July. I regret to state that the details of my report are somewhat meagre, owing to my being unable to get about for the want of a boat, none having been supplied to me. Had it not been for the kindness of the cannery managers, allowing me to travel on their steamers, I would not have been able to get around in rough weather at all.

Fishing commenced on the 4th June, one month before I arrived. The season's catch was good, but more salmon would have been put up had it been possible to obtain additional help. I am of the opinion that, in view of the change in the regulations having reference to the time of applications for licenses, which have to be in before the 1st of May, there should be a man on the river by the 15th of April, as there are a large number of Indian fishermen who cannot read the regulations, and the timely appearance of an officer would prevent any unpleasantness which might otherwise arise. I would suggest that a change be made in the weekly close time, because should low water slack be at 5 a.m. Monday morning, and the boats go out at 6 a.m., before the nets are thrown, the tide is running so strong that they have to haul up and come ashore again, and it is 5 p.m. before they again go out on the next low water. I would suggest that the weekly close time regulations be changed so as to read: "Fishing shall be discontinued from slack water nearest noon Saturday to slack water nearest 6 a.m. on the following Monday." The reason I suggest this change is, that the present regulations entail considerable loss and inconvenience to the fishermen, by reason of the very short time during which fishing can be prosecuted on Mondays, because, on account of the rapid current and strong tide, it is only possible to fish high and low water slack.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Number of Men engaged in the Fisheries, Quantity and Value of Fishing Materials, Kinds and Quantities of Fish, &c., in the Province of **British Columbia,** for the Year 1890.

LOCALITY.	VESSELS AND BOATS EMPLOYED.							FISHING MATERIALS.						KINDS OF FISH.				
	Vessels.				Boats.			Gill Nets.		Seines.		Trawl Lines.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, lbs.	Salmon, smoked, lbs.	Salmon, in cans.	Sturgeon, lbs.
			$			$			$		$		$					
Fraser River and South to American Boundary	18	323	73550	48	733	45425	4659	147200	91812	500	1500	.....	..	1109	1242000	11000	11742600	336000
Fraser River to Howe Sound	6	50	10975	15	18	1433	28	1200	975	1945	1535	5380	525	70	261000	8300	.....	60000
Howe Sound to Smith's Inlet	1	15	6000	3	37	1650	173	6250	4500	350	750	.....	.....	240	15000	.....	144000	.....
Smith's Inlet to River's Inlet	1	26	6000	3	104	3995	404	15020	12290	360	1200	300	90	230	2915	.....	1608000	.....
Rivers Inlet to Skeena River	7	184	53000	27	337	13272	1305	61650	45250	400	2200	.....	.....	845	90000	10000	4865520	.....
Skeena River to Alaska Boundary	2	25	4500	6	148	5870	524	28280	15815	40	80	.....	.....	380	4600	20000	1183600	.....
East Coast of Queen Charlotte Island	.....	.....	.....	.....	25	1500	53	2000	2000	600	900	1010	1100	50	500	.....	.....	.....
West Coast of Queen Charlotte Island	1	50	4000	5	2	500	10	.....	.....	200	250	350	500	.....	.....	.....	.....	.....
Cape Scott to Comox, V. I	1	80	18000	6	15	980	40	800	500	900	16000	1135	800	.....	5000	.....	352272	.....
Comox to Victoria, V. I	45	160	14800	103	38	5725	86	1040	1000	4100	6100	6000	3000	70	117000	9000	.....	.....
Victoria to San Juan, V. I	.....	.....	.....	.....	5	500	15	.....	.....	500	600	2000	800	.....	.....	.....	.....	.....
San Juan to Barkeley Sound, V. I	2	40	1000	4	3	300	6	.....	.....	300	350	900	300	.....	1000	.....	.....	.....
Barkeley Sound to Cape Scott, V. I	3	20	400	10	6	800	12	.....	.....	300	400	.....	.....	.....	.....	.....	.....	.....
Fur Seal Fleet from Victoria	29	2042	248250	678	252	17738	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sea Otter, Hair and Fur Seals purchased from Indians and others	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	115	3015	440475	908	1723	99688	7315	263440	174142	10505	31865	17075	7115	2994	1739015	58300	19895992	396000

RETURN showing the Number, Tonnage and Value of Vessels and Boats, &c.—Province of **British Columbia**—*Continued.*

LOCALITY.	KINDS OF FISH.												FISH PRODUCTS.				VALUE.
	Halibut, lbs.	Herring, lbs.	Herring, smoked, lbs.	Oolachans, salted, barrels.	Oolachans, fresh, lbs.	Oolachans, smoked, lbs.	Trout, lbs.	Assorted or Mixed Fish, lbs.	Smelts, lbs.	Rock Cod, lbs.	Tooshqua, lbs.	Skil, barrels.	Fur Seal Skins, No.	Hair Seal Skins, No.	Sea Otter Skins, No.	Fish Oils, gallons.	$ cts.
Fraser River and South to American Boundary	37500	87000	.....	20	4500	500	25750	8825	5750	2750	20000	.....	.....	.....	.....	.....	1,574,875 75
Fraser River to Howe Sound	239100	84500	11000	3	6000	..	21500	81500	80000	97500	102000	90	.....	.....	.....	.....	72,550 00
Howe Sound to Smith's Inlet	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2214	22,287 00
Smith's Inlet to River's Inlet	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	250	195,676 50
Rivers Inlet to Skeena River	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	204	2050	.....	1000	607,893 90
Skeena River to Alaska Boundary	.....	.....	.....	350	1000	500	150	.....	.....	.....	.....	.....	.....	50	.....	5200	156,644 50
East Coast of Queen Charlotte Island	25000	.....	2000	.....	.....	.....	.....	10000	.....	.....	.....	25	.....	.....	.....	35000	20,500 00
West Coast of Queen Charlotte Island	50000	.....	2000	.....	.....	.....	.....	50000	.....	.....	.....	150	.....	100	2	2000	8,475 00
Cape Scott to Comox, V. I.	4000	10000	.....	.....	.....	.....	2000	5000	.....	1000	.....	.....	.....	.....	.....	500	44,222 64
Comox to Victoria, V. I.	263200	132000	12500	5	22000	....	3000	249700	14500	99000	185000	....	....	....	....	12600	72,865 00
Victoria to San Juan, V. I.	10000	7000	..	....	4500	....	500	9000	500	500	2000	....	.....	.....	...	2000	2,955 00
San Juan to Barkeley Sound, V. I	6000	8000	.....	...	...	...	....	10000	.....	.....	.....	.....	.....	.....	.....	1500	2,050 00
Barkeley Sound to Cape Scott, V. I.	2000	1000	.....	...	...	...	....	2000	.....	....	....	.....	.....	.....	.....	100000	50,250 00
Fur Seal Fleet from Victoria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39547	....	....	.....	435,017 00
Sea Otter, Hair and Fur Seals purchased from Indians and others	...	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	5000	8000	100	.....	71,000 00
Totals	636800	329500	27500	378	38000	1000	52900	426025	100750	200750	309000	290	44751	10200	102	162264	3,337,262 29

Oysters, 350 sacks, at $2, $7,000; Clams, 3,000 sacks, at $1.75, $5,250; Mussels, 300 sacks, at $2, $600	12,850 00
Crabs, 504,800, at 5c., $25,240; Abalonies, 3,000 lbs., at 25c., $750; Isinglass, 1,100 lbs., at 30c., $330	26,320 00
Estimate of Shrimps and Prawns	5,000 00
do various kinds of fish consumed in the interior and other ports of the Province	100,000 00
Grand Total	3,481,432 29

YIELD and Value of the Fisheries of the **Province of British Columbia** for for the Year 1890.

Kinds of Fish.		Quantity.	Price.	Value.
				$ cts.
Salmon, in cans	Lbs.	19,895,992	0 12	2,387,519 04
do fresh	"	1,739,015	0 10	173,901 50
do salted	Brls.	2,994	10 00	29,940 00
do smoked	Lbs.	58,300	0 20	11,660 00
Sturgeon, fresh	"	396,000	0 05	19,800 00
Halibut, fresh	"	636,800	0 05	31,840 00
Herring, fresh	"	329,500	0 05	16,475 00
do smoked	"	27,500	0 20	5,500 00
Oolachans, fresh	"	38,000	0 10	3,800 00
do smoked	"	1,000	0 20	200 00
do salted	Brls.	378	10 00	3,780 00
Trout, fresh	Lbs.	52,900	0 10	5,290 00
Fish assorted and mixed	"	426,025	0 05	21,301 25
Smelts, fresh	"	100,750	0 06	6,045 00
Rock Cod	"	200,750	0 05	10,037 50
Skill, salted	Brls.	290	12 00	3,480 00
Tooshqua, fresh	"	309,000	0 05	15,450 00
Fur Seal skins	No.	44,751	11 00	492,261 00
Hair do	"	10,200	0 75	7,650 00
Sea Otter skins	"	102	100 00	10,200 00
Fish oils	Galls.	162,264	0 50	81,132 00
Oysters	Sacks.	3,500	2 00	7,000 00
Clams	"	3,000	1 75	5,250 00
Mussels	"	300	2 00	600 00
Crabs	No.	504,800	0 05	25,240 00
Abelones	Lbs.	3,000	0 25	750 00
Isinglass	"	1,100	0 30	330 00
Estimate of shrimps and prawns				5,000 00
Estimate of fish consumed in the interior of the Province				100,000 00
Total Value				3,481,432 29
Estimate consumption by Indian population—				
Salmon	$2,732,500 00			
Halibut	190,000 00			
Sturgeon	260,000 00			
Fish oils	75,000 00			
				3,257,500 00
Grand Total				6,738,932 29

NUMBER and Value of Vessels, Boats, Nets and Trawls, engaged in the Fisheries, of **British Columbia,** during the Season of 1890.

Material.	Value.	Total.
	$ cts.	$ cts.
115 Vessels, 3,015 tons	440,475 00	
1,723 Boats	99,688 00	
263,440 Fathoms of Gill Net	174,142 00	
10,505 do Seines	31,865 00	
17,075 do Dogfish and Halibut Trawls	7,115 00	
		753,285 00
36 Canneries, complete	720,000 00	
6 Oil Factories	25,000 00	
2 Frezing Establishments	10,000 00	
6 Salting Stations	2,994 00	
		757,994 00
Grand Total		1,511,279 00
Sailors and Hunters	908	
Fishermen and Canneryman	7,315	
	8,223	

I have the honour to be, Sir,
Your obedient servant,
THOS. MOWAT,
Inspector of Fisheries.

APPENDIX G.

ONTARIO.

SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO FOR THE YEAR 1890.

LAKE SUPERIOR DIVISION.

Overseer *W. C. Dobie*, who has charge of that part of Lake Superior extending from Pigeon River to the Slate Islands, reports that the fishing season opened on the 10th May and lasted till the end of December. Although the catch did not quite come up to that of 1889 it exceeds that of 1888, and may be said to have been succesful, considering the stormy weather experienced during the month of September, whereby several nets were lost. Pound-net fishing seems to be gaining in favour, and the number of applications for 1891 will undoubtedly exceed those of last season. Mr. Dobie leans towards that mode of fishing, claiming that it is less injurious than gill-net fishing. Pound-nets are usually set nearer shore, and capture only the fish which would not be caught at all were it not for them. In stormy weather, before the fishermen can raise their gill-nets, large numbers of dead fish are found therein, which have to be thrown away, fouling the fishing grounds. There can be no such waste of fish in pound-nets, as they retain fish alive for weeks till taken up. The close season was well observed. The value of fish caught in this division is given at $121,374.

Overseer *Joseph Wilson's* division comprises the lower portion of Lake Superior, from the Slate Islands extending to Collin's Inlet, in Georgian Bay. Salmon trout were as abundant as usual, but whitefish yielded less in Lake Superior than in the Lake Huron portion of his district. Sturgeon are declining. No improvement can be hoped for so long as these fish are allowed to be caught during the spawning season, and Mr. Wilson urges the adoption of a close time. Fishermen experienced considerable loss of fishing material during the heavy gales which prevailed on Lake Superior in the fall. The close season was well observed by the licensed fishermen, but Indians and half-breeds, it is suspected, carry on illegal night fishing between Algoma Mills and Bruce Mines, and run their fish to Detour.

Guardians *Cameron*, *Gauthier* and *Strain* performed their duties during the close season to the satisfaction of the Overseer.

It is much to be regretted that nothing has been done by the Provincial Government for the protection of speckled trout in the rivers on the north shore of Lake Superior. Several of those streams were netted and poached during the past season, and large quantities of fine trout were exported to United States markets. The most efficient remedy would be for the Dominion Government to prohibit the exportation of these fish.

A guardian was employed to watch a couple of rivers in the vicinity of Sault Ste. Marie till they were frozen over, and this had a good effect to check netting at night.

The total value of the fisheries was:—In the Lake Superior portion, $29,339; in Georgian Bay portion, $32,202—making a total of $61,541.

MANITOULIN ISLAND DIVISION.

Overseer *John Marks*, of St. Joseph's Island, and *Alex. Brinkman*, of Manitowanning, have charge of the fisheries around this island. The former states the fish

were as abundant as before. There were less boats and tugs employed in the fishery last season from Duck Islands.

Overseer *A. Brinkman* sent no report.

The total value of the fisheries in this districts amounts to $293,475.

GEORGIAN BAY DIVISION.

Overseer *F. G. M. Fraser*, who has charge of that portion of Georgian Bay extending from Collin's Inlet to Point Marks, reports an increased catch of fish all round. This he attributes to a more vigorous prosecution of the fishing industry. He apprehends the Georgian Bay waters will not be able to stand the annual drain now put upon them. His division alone shows that nearly half a million fathoms of gills-nets were in use last season; each boat averaging over 6,000 fathoms. Gangs of fishermen, with fyke-nets, brought from the United States, carry on extensive illegal fishing. They are protected by fish dealers, who are mostly agents for American firms. Some seizures were made, but it is hard to locate the nets and seize them with this class of poachers. The injurious habit of throwing offal of fish overboard is still indulged in, and must prove disastrous to the whitefish feeding grounds. The recent fishery regulation making the close season for salmon trout from 15th October to the end of November is deemed a wise and needed measure; but there will be a great deal of trouble in enforcing it, unless the close season for whitefish is made the same. The total value of the fisheries in this division amounts to over $300,000.

Overseer *John Donaldson*, of Collingwood, who has charge of that part of Georgian Bay from Point Marks to Point Boucher, made no report.

Overseer *G. S. Miller*, whose division comprises that part of Georgian Bay extending from Point Boucher to Colpoy's Bay, returns an increased catch of fish, especially in whitefish and salmon trout. Five tugs and thirty-seven boats, manned by over one hundred fishermen, were engaged fishing. The total value of the yield of this division foots up to $98,733.

Overseer *John Shackelton* whose division extends from Colpoy's Bay to Cape Hurd, made no report. The Department has lately been advised of his death.

LAKE HURON DIVISION.

Overseer *R. H. Murray*, who has charge of that part of Lake Huron extending from Cape Hurd to Southampton, made no report.

Overseer *Hugh McFayden* attends to the Saugeen River. He states that owing to cold weather in the early part of the summer, anglers had poor sport, but that they did better later on. Speckled trout did not seem so abundant as usual. Some parties felt inclined to use nets, and had to be closely watched.

Overseer *H. W. Ball* has charge of that portion of Lake Huron extending from Southampton to Goderich. He reports an increased catch in almost every locality, except at Kincardine, where there was one tug less than last year employed. Much illegal fishing is undoubtedly carried on in this district, either without licenses or by means of undersized nets. Illegally-caught fish are also reported to be shipped during the close season as frozen fish. Were regulations enacted compelling shippers to produce certificates of inspection of fish from authorized officers, it would greatly tend to prevent these illegal practices.

The dam at Maitland Falls, which was carried away, is being replaced by a new one, which bars only half the river, thus giving the fish every facility to ascend.

The total value of the yield of the fisheries of this division amounts to $52,331, an increase of 25 per cent. over 1889.

Overseer *H. B. Quarry*, of Parkhill, attends to that portion of the coast of Lake Huron extending from Goderich to Blue Point. He reports fishermen as being very reluctant in furnishing him with statements of their catch. Fish, certainly, were more abundant than during the last few years. Were the close season for pickerel to end by the 1st May, it would be more advantageous to the fishermen, as these fish appear to have done spawning by that time. The total yield of the fisheries of this division is valued at $26,700.

Overseer *J. C. Pollock's* division extends from Blue Point, on Lake Huron, to Baby's Point, on River St. Clair. He reports a scarcity of fish. Some fishermen refused to take out licenses, seeing others fishing without success. Some people ascribe this decline to the heavy traffic done on the river, which drives the fish to deeper water, while others claim it is due to trap-net fishing at both ends of the division. The total catch only amounts to $7,600.

LAKE AND RIVER ST. CLAIR DIVISION.

Overseer *C. W. Raymond* attends to the upper part of Lake St. Clair. He reports a fair catch of bass, as compared with other years. The balance of the catch is mostly composed of coarse fish. As the ice remains long in Mitchell's Bay it allows of very little fishing before the close season; hence the small yield. No infractions of the fishery laws are reported. An American from Detroit came over to set night-lines in Canadian waters, but left on being ordered to do so.

Overseer *A. Quenneville*, who has charge of the lower part of Lake St. Clair and of the North Thames River, also reports a small catch. This, he attributes to the fact that seiners cannot use their seines before the close season begins.

THAMES RIVER DIVISION.

Overseer *T. McQueen*, whose division extends from the mouth of the Thames River to Lewisville, says, that nineteen out of the twenty-four fishing grounds in his division were in operation last season, employing nearly one hundred men. The principal fish caught are pickerel, pike and coarse fish. The yield ran short of previous years. This is attributed to the floating ice and sunken logs, as well as to a less vigorous prosecution of the fishery. The Overseer is of the opinion that a change took place in the periodical runs of fish, and that the large runs occurred during the close season, which was well observed. The law regarding sawdust is better complied with. Some of the fishermen deserve credit for making strenuous efforts to improve their grounds by removing sunken logs and debris.

Overseer *John Crotty* attends to that portion of the Thames extending from Lewisville to Wardsville. He also reports a shortage in the catch, caused by ice jams and by the floating logs, which destroyed several nets and prevented others from setting. There are no fish-ways in his division. The close season was strictly observed.

Overseer *P. McCann*, who has charge of the upper portion of the Thames River, reports a fair catch, principally of trout, whitefish, herring and pike. Several rumours of spearing were afloat, but the Overseer was unable to secure sufficient evidence to convict. Farmers do not like to lodge complaints against their neighbours. In some places, the river runs very wild, being almost perpendicular, and it is impossible to catch or follow the poachers. Two of the thirteen fish-ways in this district will need repairs in the spring; the others are in good order. The present form of fish-way works satisfactorily and meets the approval of anglers.

DETROIT RIVER DIVISION.

Overseer *Joseph Boismier*, who has charge of the Detroit River, reports an improvement in the pickerel fishery. Whitefish were fairly abundant, and there is reason to believe that the catch was larger than reported. Herring are steadily declining, and something must be done to give them better protection. Sturgeon and perch, being also marketable fish, should be protected. It is stated that millions of young fish are destroyed by parties seining for minnows in the shallow bays of Detroit river. The total value of the fisheries of this division only amounts to $11,200, being a shortage of over 40 per cent., as compared with 1889.

LAKE ERIE DIVISION.

Overseer *David Girardin's* division comprises the waters around Pelee Island. His returns show a decline of 50 per cent. in the catch of herring, owing to the strong gales which prevailed during the best run of these fish. Whitefish show about the same as during the previous year. There is a considerable increase in the

yield of pickerel and sturgeon. The total value of fish caught in this division is given at $40,000, a decrease of over 33 per cent. from last year.

Overseer *Wm. Prosser's* division extends from the mouth of Detroit River to the Kent County line. His returns show an increase in every kind of fish, except in herring, where there is a decline of 50 per cent. This decrease alone explains the deficiency in the total value of this season's catch ($80,000), at the same percentage, as compared with the previous year.

Overseer *John McMichael* has charge of the frontage of the counties of Kent and Elgin. He reports the stormy weather washing the clay banks and rendering the waters so muddy that the finer grades of fish kept outside. The season was therefore late in beginning; but the yield proved, however, an average one. The Kent division shows an increase. The close seasons are reported to have been well observed. The total value of the fisheries of the former division foots up to $148,500, and the latter to $100,400.

Overseer *David Sharp*, who attends to the Norfolk division, reports a large decrease in the yield of all kinds of fish, owing to unfavourable weather and strong winds which kept the fish off shore. Some protection should be given to sturgeon, which is becoming the most valuable fish of Lake Erie. There were 15,000 lbs., more of this fish caught last year, in this division, than of whitefish. Its value is constantly increasing. One party was convicted of violating the bass close season, and fined $20. The total value of the fisheries of this division is given at $35,400, a decrease of 28 per cent. from 1889.

Overseer *C. W. Evans*, of Cayuga, has charge of part of the Grand River from North Cayuga to Caledonia. He reports this stream specially adapted for the breeding of large black bass and pickerel, both of which show unmistakable signs of increase. A close watch was kept on poachers using nets and light jack spears, and these illegal practices, were to a certain extent, checked. Some residents complain of the regulation which prohibits netting and spearing for their own use; but as good strings of fish can, at any time be, caught with hook and line, the Overseer considers that they have little reason to grumble. Several nets and spears were confiscated and some of the offenders prosecuted. The fish-way at Dunville was inspected and found efficient, but the overseer thinks it is not properly located. Two mill owners were summoned before a magistrate, and compelled to desist from throwing sawdust into the stream.

LAKE ONTARIO DIVISION.

Overseer *Fred. Kerr* supervises the Hamilton division, which extends from Moulton Bay, on Lake Erie, to Burlington Beach, on Lake Ontario, including Niagara River. He reports the shore fishing for herring in Lake Ontario poor, owing to continued adverse easterly winds, until the fish had gone to deep water, where some good catches were made at distances of two to four miles outside. At Port Maitland, on Lake Erie, enormous hauls of 30 barrels per lift were made of splendid-sized herring. Ciscoes are surely decreasing, the catch being barely half that of former years. In some localities it proved a complete failure. Several theories are advocated by fishermen for this seeming disappearance; but Mr. Kerr attributes it solely to steady overfishing, and strongly urges the adoption of a close season. Whitefish appeared at Burlington Beach in June and July, but continuous winds prevented the fishermen from going out. The usual quantity of whitefish and salmon trout was, however, taken. Sturgeon were not seen at Niagara, but reported abundant at Ridgeway, where they were caught of very large size and brought remunerative prices. Coarse fish were abundant. Perch is now finding its way on the markets at fair prices. Some of these fish weigh as high as 3 pounds, and, to a certain extent, replace ciscoes during the summer months.

In the Lake Erie portion of Mr. Kerr's division fishing generally was better than on Lake Ontario. Angling in Grand River was reported good, fine strings of bass and pickerel being caught throughout the season. All the sawmills of this district were visited, and the owners notified to comply strictly with the law regarding sawdust. Two mill owners were fined for non-compliance with the law. Mill owners at

York and Caledonia, on the Grand River, were served with the requisite notices to build fish-ways. Several gill-nets, illegally used in Burlington Bay, were seized and destroyed. With these exceptions, no other violations of the fishery laws occurred. The total value of the fisheries in the Lake Ontario portion amounts to $48,584, and in Lake Erie to $16,321—a total of $64,905.

Overseer *Wm. Sargent's* division extends from Burlington Beach to Port Credit, on Lake Ontario. The catch of ciscoes and herrings was nearly equal to that of previous years. Although there is no visible decline in the yield of these fish, this officer urges the adoption of a close season, especially for ciscoes, and recommends the months of July and August as the proper time. Fishermen being too crowded in this division, some went to Frenchman's Bay, but met with poor luck, owing to their being unacquainted with the fishing localities. On a visit to this bay, to enquire into the cause of fishermen losing so many nets by strong undercurrents, it was ascertained that the bottom would have been all right, had they gone further out in the bay; say from seven to ten miles. The yield of fish in this division is valued at $50,000, a slight decrease from last year's returns.

Overseer *Wm. Helliwell's* division comprises that part of Lake Ontario fronting on the County of York. Great difficulty is experienced in obtaining reliable data of the fishermen's catch, and this should be made one of the conditions to entitle one to obtain a renewal of their license. The yield fell off a little, owing to a couple of the principal fishermen not pursuing their calling, as formerly. Those who devoted all their time and attention to the fishing business did well. Herring seems the staple fish of this division; its catch is given at 121,000 lbs. The total value of all the fisheries nearly reaches $10,000.

Overseer *Charles Gilchrist* has charge of that part of the coast of Lake Ontario fronting on the County of Northumberland, including Rice Lake. He reports a further decrease in the yield of whitefish and salmon trout, the catch of the latter fish not exceeding 600 lbs. The principal fish now caught are ciscoes, which are here deemed an inferior fish.

Rice Lake kept up to its usual standard. Large numbers of maskinonge were caught by sportsmen as well as by Indians, and every one admits that the stock is yearly increasing. Over one hundred Indians were constantly engaged fishing for yellow bass and maskinonge. They make a good thing of it by peddling these fish and bartering them for farm produce. Very few foreigners visited Rice Lake during the season, but those who came admitted that they never before had such luck. A party of three Americans caught 119 maskinonge and a large number of bass in six days.

The total value of fish caught at Rice Lake was $13,800, and for the whole division $18,308.

Overseer *Nelson Simmons*, of Meyersburg, who attends to the Trent River, reports a better catch of fish than usual, especially in maskinonge and bass. The close seasons were well observed. There is only one fish-way in working order on this stream. The old ladder at Chisholm's Rapids is completely gone, and Messrs. Miller & Co. have failed to place a new one in their dam. Pickerel cannot improve so long as these dams remain unprovided with fish-passes. The river has been well kept clear of sawdust and rubbish of any kind. The total value of the fisheries in this district is given at $11,136.

Overseer *Geo. B. McDermot*, whose division comprises the shore of Lake Ontario, from Oshawa to Ashbridge's Bay, as well as Lake and River Scugog, reports that very little fishing was done at Pickering Harbour, only a few licenses being granted. There are, however, signs of an active season for 1891, several fishermen from Bronté intending to fish in these waters, with a better class of boats and superior gear. This may stimulate local fishermen to improve their mode of fishing. The yield of the fisheries in this division reaches $10,000.

Bass and maskinonge are steadily improving in Lake Scugog. The catch exceeded that of previous year, and the bass were the largest ever seen in these waters, and of a delicious flavour. The shores of this beautiful lake were strewn with camps of tourists, enjoying fine sport. This brings quite a revenue to settlers,

who are thus enabled to dispose of their farm produce at fair prices. During the close season, the spawning beds were swarming with breeding fish. Several poachers were caught at work and promptly fined, which had a telling effect upon others. The people generally begin to realize the beneficial effects of protection, and are loud in their praise of the Department's action in the matter. The total value of the fish caught at Lake Scugog is estimated at $25,740.

PRINCE EDWARD AND BAY QUINTÉ DIVISION.

Overseer *W. P. Clarke*, of Belleville, who was appointed to replace Overseer Wilkins, reports an average catch. The returns show that 78,400 pounds of whitefish were taken in fifteen days. Mr. Clarke thinks that the catch of bass is understated by fishermen. Fishing for pickerel through the ice was better than for the past twenty years. There are no fish-ways in this district. The close season for whitefish was well observed. The mill owners are complying with the law respecting sawdust and mill rubbish. The fisheries of this district are valued at $27,000.

Overseer *Jos. Redmond*, whose division comprises the waters of Lake Ontario around the County of Prince Edward, reports a slight improvement in the yield of fish over that of last year. No violations of the law occurred, and the fishery regulations were well observed The total value of the fisheries of this division is given at $28,840.

LENNOX, ADDINGTON AND FRONTENAC DIVISIONS.

Overseer *A. D. Sills*, who has charge of the fisheries of the County of Lennox, reports a decline in the yield of his division, owing to a smaller number of fishermen being engaged in this pursuit; and others, considering the license fee too high for coarse fish, refused to fish at all. The close seasons were strictly observed. The entire catch of this district is valued at $5,700.

Overseer *R. R. Finkle*, whose division comprises that part of Lake Ontario fronting on the Township of Ernestown, including Amherst Island, returns a much lighter catch than usual; but prices were better. The close season is reported to have been well observed, and no violations of the law came to this officer's notice. The value of the fisheries of this division only comes to $12,600, a decrease of 40 per cent., as compared with the year 1889.

Overseer *George Lake*, who has charge of the lower portion of the inland waters of the County of Frontenac, states that fishing was not so actively pursued as usual. Herring are getting abundant in those waters, and settlers catch a good many for their own use. This Overseer recommends the issue of net licenses to residents for this kind of fish only. A fish-way is needed at the foot of Bob's Lake.

Overseer *Robert Gilbert*, who has charge of some eighteen lakes in the upper portion of the County of Frontenac, reports an average catch. Trout Lake, which was re-stocked some years ago, shows signs of improvement. Complaints of spearing by sportsmen during the hunting season proved groundless upon investigation. There are no fish-ways in this division, but one is recommended at the junction of Lower and Upper Trout Lakes, and as the mill was burnt last summer, this is the proper time for having it placed in the dam.

Overseer *H. R. Purcell*, who has charge of the lakes in the County of Addington, reports very little netting in his division. Black bass are on the increase in the Napanee waters. He recommends that several lakes in the vicinity of the Napanee and Kingston Railways be re-stocked with Oswego bass and pickerel. The small yield of fish in this division is not due to a scarcity of fish, but to abundance of other work. Very little sawdust now goes into the streams. The close seasons are well observed.

WOLFE ISLAND AND KINGSTON DIVISION.

Overseer *Thomas Merritt*, who has charge of the lake shore frontage of the County of Frontenac, reports a slight decrease in the season's operation. This is ascribed to a less vigorous prosecution of the spring fisheries, prices being then low and fishermen finding more remunerative employment elsewhere. The summer catch by anglers and trollers has never been better for many years past. Fly-fishing for bass in the inland lakes was remarkably good. Mr. Merritt suggests that foreign

sportsmen be required to report at the Custom house or to the local Fishery Overseer, in order that their equipment be inspected, as a protection against illegal fishing appliances.

Overseer *Peter Kiel*, who has charge of the fishing grounds around Wolfe Island, reports that fish were as abundant as before, but that the decreased yield is to be attributed to a less vigorous prosecution of the fishery. All the coarse fish taken in this division are shipped to United States markets. The Kingston markets are supplied from the upper lakes, at reasonable prices. The close seasons are well observed.

ROCKPORT, BROCKVILLE AND CORNWALL DIVISIONS.

Overseers *Wallace, Hunt, Poole, McGarity* and *Mooney* have charge of the divisions which extend from Gananoque to Glengarry. With the exception of hoop-nets fished in the vicinity of Rockport, no netting is allowed in these waters. Anglers and pleasure seekers give employment to numerous boatmen. Fishing seems to be improving, as the returns show an increase of 50 per cent. in the catch of bass over that of the previous season, and over 200,000 lbs. of pike. The total value of the fisheries is reckoned at $27,564, an increase of over $10,000.

PRESCOTT, RUSSELL AND CARLETON COUNTIES DIVISION.

Overseers *P. St. Pierre*, of Point Fortune, *O. Miron*, of Alfred, and *W. Boucher*, of South March, have charge of the Ottawa River fronting on the above-named counties. The fisheries of these divisions are unimportant, coarse fish only being caught, and the total yield valued at $5,400.

LAKE NIPISSING DIVISION.

Overseer *J. S. Richardson* reports a falling off in the catch, not through a lack of fish, but owing to the fact that settlers being unprepared to keep fish during the summer weather, only begin to fish late in September, when they can safely ship. The principal kinds of fish in these waters are pickerel and pike. Over 700 tourists visited the now famous summer resort at Manitou Island. Nearly 200 Indians are settled on the banks of this beautiful lake, chiefly living on fish. Mr. Richardson recommends the granting of licenses to fish for sturgeon with large-meshed nets, so that no other kinds of fish can be caught. The only fish-way in this division is that at the foot of Turtle Lake, which was built last summer.

PARRY SOUND AND MUSKOKA DIVISIONS.

Overseer *G. R. Steele*, of Lorimer Lake, states that complaints still occur regarding the want of fish-ways on some streams in his division. One party was detected fishing in Staley's Creek during the close season, and fined. Three mill owners were also prosecuted for violation of the Sawdust Act. In one case the offender was fined; the other cases are still pending. Mr. Steele favours the issue of licenses to settlers for net-fishing for domestic purposes only.

Overseer *William Lockhart*, of Denville, has charge of the inland waters of several townships in Muskoka and Parry Sound. He also recommends the granting of net licenses to residents during the open season. The close seasons in this division were fairly observed.

Overseer *Henry W. Gill*, of Ufford, who attends to Lakes Rosseau and Muskoka, reports fish abundant. Angling was good. A bad habit prevails among tourists of killing young fish, too small for food, simply for the purpose of boasting of having killed so many fish during such a time. Bass fishing seems to be the principal attraction of the numerous sportsmen who visit those beautiful waters. Mr. Gill also urges the issue of herring-net licenses to settlers, as these fish cannot be caught otherwise.

Overseer *J. G. Rumsey*, of Huntsville, reports that all fishing in his division is carried on by anglers or for local consumption. Tourists were scarce last season. The necessity of a fish-pass at Burk's Falls, on the upper waters of Maganettawan River, is much felt, as this is the best speckled trout stream in that district. The southern branch of the Muskoka and its tributaries are well stocked with game fish;

but the same cannot be said of the north branch, which should receive some fry from the Government hatcheries. The salmon trout fry placed in these waters two years ago is reported to be thriving. Considerable trouble was experienced with poachers spearing on the spawning grounds. It is a difficult thing to contend against this evil, neighbours being reluctant to inform on one another; and the law-breakers being masked and disguised it becomes impossible to identify them. This officer's endeavours to track these reckless individuals thus utterly failed. No trouble is experienced with mill owners; most of them have built burners to consume all the rubbish from their mills.

LAKE SIMCOE AND COUCHICHING DIVISIONS.

Overseer *L. S. Sanders*, who has charge of the west side of Lake Simcoe, reports that the heavy fines which were imposed during the season of 1889 had a telling effect, no violations of the law being discovered this season. Angling was good. Black bass appeared abundant, but for some reason or another it would not take the troll.

Overseer *Wm. Hastings*' division comprises the south and eastern sides of Lake Simcoe. He reports the close season as having been fairly well observed. Angling was poor. He issued 45 spearing permits.

Overseer *Wm. McDermot*, who attends to the inland waters of the County of Simcoe, reports a marked improvement in the catch of speckled trout and pike; bass and maskinonge about the same as last year. Owing to heavy freshets, several fish-ways were either damaged or entirely carried away. They were, however, repaired as soon as circumstances would permit. The law relative to sawdust was not very well complied with, and this officer was compelled to proceed and convict several parties. The close seasons were well observed, and poaching has almost disappeared from these waters.

Overseer *F. Webber* has charge of the northern part of Lake Simcoe, of Lake Couchiching, the Severn River and its tributaries. He reports an increase in all kinds of fish, especially in maskinongé, whitefish and speckled trout. The improvement in the yield of maskinongé is ascribed to the stoppage of spearing during the close-season, that of whitefish to artificial re-stocking, and of speckled trout to the absence of sawdust or other rubbish from the streams. The Rama Indians gave some trouble; but since the attention of the agent has been called to their lawless acts they seem more inclined to obey the laws. Two mill owners were prosecuted for allowing sawdust to escape into the Severn River, but a conviction could not be obtained, for want of sufficient evidence. Lots of anglers from the States visited the Severn River, one party numbering ninety persons.

VICTORIA COUNTY DIVISION.

Overseer *J. R. Graham*, who has charge of the inland waters of the above-named county, reports maskinongé and bass increasing. The close season has been well observed; only a single complaint was laid before him, but as no direct proof could be made the matter was allowed to drop. The fish-way at Balsover dam is in good repair. All the owners of saw mills visited by this Overseer seem well disposed to carry out the law.

PETERBOROUGH COUNTY DIVISION.

Overseer *G. W. Fitzgerald*, of Lakefield, who has been appointed to replace ex-Overseer Cochrane, whose services were dispensed with, states it is impossible to give any accurate estimate of the fish caught in the numerous lakes under his charge, known as the Peterborough division. It must be quite large, for, adding tourists to settlers, and a considerable Indian population (living mostly by fishing), he estimates the number of persons fishing at different seasons of the year to fully 2,000. He says that much illegal fishing has been carried on in the past, but he hopes with one assistant to be able to cope with it in the future. In some lakes, the fish are abundant, and seem to be increasing, while others show signs of decreasing, owing, no doubt, to past illegalities.

RETURN of the Number and Value of Vessels, Boats and Fishing Materials, the in the Province of **Ontario,**

DISTRICTS.	VESSELS AND BOATS EMPLOYED.							FISHING	
	Vessels or Tugs.				Boats.			Gill Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.
Lake Superior Division.			$			$			$
Thunder Bay	1	15	600	3	2	150	4	6000	360
Welcome Islands					4	300	8	2000	720
Point Porphiry					3	225	6	9000	540
Black Bay	2	150	2200	8	2	150	4	6000	360
Roche Debout					2	150	4	6000	360
Nepigon Bay	1	20	900	3	9	850	18	27000	1620
Caribou Island					2	200	2	6000	525
North Mamainse					2	300	3	6500	500
Lizard Islands	2	57	5500	9	8	1600	22	16000	2000
Batchewaning Bay					5	1000	18	10000	2000
Pancake Bay					1	75	3		
Gros Cap					2	160	4	112	100
Totals	6	242	9200	23	42	5160	96	94,612	9085
Manitoulin Islands and Vicinity.									
Serpent River	2	40	2400	9	5	750	14	25000	3000
Macbeth's Bay					2	200	2		
Grand Sable					2	200	2		
Grand Batture					2	500	5		
Spanish River	1	27	2000	4	2	500	7		
Meldrum Bay					2	400	4		
Tolsma's Bay					1	200	2		
Barrie Island					2	300	4	6000	1000
Kagawong					3	450	6		
Duck Islands	2	30	5000	12	16	3200	26	12000	1200
From South Bay to Gore Bay including Squaw and Club Islands	8	190	12000	40	67	6700	200	165000	30000
Totals	13	287	21400	65	104	13400	272	208000	35200

Number of Men employed, &c., with the Kinds and Quantities and Values of Fish for the Year 1890.

Materials.				Kinds of Fish.										Value.
Seines.		Pound Nets.		Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, fresh, lbs.	Sturgeon, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	Home Consumption, lbs.	
No.	Value.	No.	Value.											
	$		$											$ cts.
				50	60000	40000	15	4000		10000		10000	30000	11,450 00
				20	80000	50000	10							11,700 00
				60	90000	50000	20							13,000 00
		8	2100	10	250000	150000	15		77400	60000		35000		44,544 00
		2	500	15	50000	40000	25							8,400 00
		2	500	140	250000	90000	50			20000			6000	32,280 00
							500							5,000 00
					14000	12000							300	2,329 00
		1	750	40	39400	52600	78		10900					10,249 00
		1	840	43	41000	33100	29		7000					7,730 00
		1	650	36	17600	12300	65		2100					3,774 00
				18		800								260 00
		15	5340	432	892000	530800	807	4000	97400	90000		45000	36300	150,713 00
		2	900	28	73000	85000	22		5000	8050				15,623 00
		2	500	54	14850	12240			1100					3,018 00
		2	400		20650	19100			650					3,601 00
		4	1600		10000	6000			16000	25000				3,860 00
		4	1600		10000	8000			25000	50000				6,100 00
		2	1000		30000	29000			2000	9000	700	7000	1000	6,235 00
		2	900		30300	20000			1500	8000	600	6000	700	5,225 00
		1	300		24000	40000			8000				1000	6,430 00
		3	1000		39600	16500			2100	9800	800	7600	1400	5,842 00
		6	2300		84000	246000			6700	11000		1600	2700	32,511 00
2000	375	1	150	1400	1900000	250000	820		38000	50000	5000		10000	205,030 00
2000	375	29	10650	1482	2236400	731840	842		106050	170850	7100	22200	16800	293,475 00

RETURN of the Number and Value of Vessels, Boats

DISTRICTS.	VESSELS AND BOATS EMPLOYED.							FISHING MATERIAL.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
			$			$			$		$		$		$
Georgian Bay Division.															
Bustard Islands	2	50	3200	8	22	4400	40	152000	18240	35	120				
Byng Inlet	1	35	1500	3	11	1980	26	66000	7920						
Point au Barril					15	2700	33	90000	10800						
Mink Island					11	1980	30	66000	7920						
Moose Point					5	800	12	30000	3600						
Western Island					10	2000	30	60000	7200						
High Rock					6	1080	12	30000	3600						
Sturgeon Bay										250	400				
Nottawasaga River					1	150	3			180	30				
Collingwood	2	75	4200	10	5	750	12	6000	900						
Meaford and Thornbury	2	40	3500	8	14	2500	30	9000	1350						
Vail's Point					9	1500	20	2500	375						
Owen Sound Bay	1	15	3000	4	8	1200	18	2000	300						
Colpoy's Bay to Cape Hurd	7	145	24000	25	35	8000	112	220100	54000						
Totals	15	360	39400	58	152	29040	378	732600	116205	465	550				
Lake Huron Division.															
Stokes Bay & Port Caldwell	4	200	8000	16	15	3700	42	23000	7000						
Fishing Islands					24	2400	60	50000	6800						
Indian Beach					2	40	20			400	1600				
Sauble Beach					7	140	28			1400	5600				
Saugeen and River					6	1500	24	34000	6000						
Port Elgin					1	250	3	1000	1300						
Southampton	2	130	300	8	14	2800	42	17000	5800						
Kincardine					3	700	8	2500	1400						
Inverhuron					10	1200	18	4000	1400						
Goderich	3	150	6000	12	10	2600	29	15500	5000						
Bayfield, Grand Bend and Blue Point	1	22	3000	15	24	2210	49	5280	500	124	275	37	7350		
From Blue Point to Point Edward					15	570	43			490	1710				
Totals	10	502	17300	51	131	18110	366	152200	35200	2414	9185	37	7350		

and Fishing Material, &c.—**Ontario**—*Continued.*

Kinds of Fish.															Value.
Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	Home Consumption, lbs.		$ cts.
100	564000	150000	50	...	.....	....	5000	2000	5000	100000	15000	2000	30000		70,050 00
50	412000	108000	20	....	.....	....	1000	1000	7000	80000	7000	3000	15000		50,690 00
100	450000	150000	75	....	.....	....	5000	500	50000	60000	2000	5000	30000		60,830 00
20	396000	132000	15	25	.....	.....	.....	.....	20000	60000	2000	2000	10000		50,590 00
30	120000	30000	50	30	.....	....	1000	500	25000	80000	1000	.....	25000		20,710 00
100	300000	100000	100	....	.....	.....	.....	.....	1000	40000	.....	.....	500		38,475 00
5	72000	72000	5	25	10000	.....	500	500	5000	20000	2000	5000	2000		15,530 00
.....	.....	.....	.....	.....	2000	.....	500	500	1000	10000	2000	5000	.....		1,070 00
20	12000	40000	30	45	.....	....	8000	.....	.....	500	.....	300	500		6,174 00
40	70000	250000	45	35	.....	.....	.....	.....	.....	900	.....	600	5000		31,812 00
15	30000	180000	60	40	.....	....	.....	.....	.....	800	.....	900	3000		21,475 00
....	15000	200000	150	....	.....	.....	.....	.....	.....	900	.....	1200	4000		22,910 00
10	5000	150000	50	20	.....	.....	.....	.....	.....	1000	....	1400	6000		16,362 00
50	412000	882000	110	112	.....	....	.....	.....	.....	10200	.....	.....	....		123,820 00
540	2858000	2444000	760	332	12000	....	21000	5000	114000	464300	31000	26400	131000		530,498 00
...	50000	650000	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69,000 00
1500	.....	.....	1500	3200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42,800 00
...	.....	.....	.....	200	60000	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,800 00
.....	.....	.....	....	1200	138500	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,725 00
...	28000	70000	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,240 00
....	7000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	560 00
...	40000	170000	....	....	3000	...	.....	.....	2000	3000	...	5000	13000		21,190 00
....	.....	37750	....	...	6000	....	.....	.....	2200	1200	.....	600	15400		4,759 00
...	...	12000	....	....	60000	.....	.....	.....	.....	.....	.....	.....	72000		6,360 00
....	.....	150000	....	...	12000	12000	.....	....	5000	8300	300	20300	100000		20,022 00
11	14820	8900	50	60	83700	...	190600	...	....	122400	.....	14000	13000		26,700 60
....	.....	2000	....	....	51500	.....	33150	.....	....	47200	.....	...	.....		7,596 00
1511	139820	1100650	1550	4660	414700	....	223750	...	9200	182100	300	39900	213400		223,752 60

RETURN of the Number and Value of Vessels, Boats

DISTRICTS.	VESSELS AND BOATS EMPLOYED.							FISHING MATERIALS.							
	Vessels.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
River and Lake St. Clair Division (including Thames River.)			$			$			$		$		$		$
Point Edward to Baby's Pt.					18	400	40			380	690				
Mitchel.'s Point					5	200	16			125	445				
Sydenham River					2	30	8			100	160				
Thames River					19	164	105			700	640				
Stony Point					13	365	52			6900	7300				
Totals					57	1159	221			8205	9235				
Detroit River Division.															
Detroit River, Peach and Bois Blanc Island					25	724	106			720	1400	4	1000	3	105
Lake Erie Division.															
Point Pelée (Island)					26	2416	55					28	5060		
do (Mainland)					42	4070	54					39	9650		
Romney to Orford					61	3535	72	850	5800	1070	420	52	16800		
Fronting on County of Elgin	7	113	11100	42	36	4260	67			380	200	48	16900		
Houghton to Rainham, including Inner and Outer Bays and Turkey Point	4	24	4900	8	48	2750	139	7400	1745	4000	2630	24	7200		
Long Point Island					5	100	10	1950	234						
Cayuga to Fort Erie, including Grand River	1	26	700	2	36	1650	77	14400	4570	1225	1025	6	1200		
Totals	12	163	16700	52	264	18775	474	24600	12349	6675	4275	197	56810		

and Fishing Materials, &c.—**Ontario**—*Continued.*

Kinds of Fish.															Value.
Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Herring, brls.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	Home Consumption, lbs.		$ cts.
....	....	....	....	....	36000	....	6000	....	....	73400	1500	1000	....		6,669 00
....	....	....	....	....	....	....	....	....	10240	300	2680	25400	2150		1,592 90
....	....	....	....	....	....	....	....	....	....	2200	....	5800	....		306 00
....	20800	41000	....	812	101500	....	3300	2410	3730	61520	3400	129500	15000		22,849 60
....	....	....	....	....	2000	....	2700	3500	3700	4700	3000	19700	17000		2,227 00
....	20800	41000	....	812	139500	....	12000	5910	17670	142120	10580	181400	34150		33,644 50
....	38600	....	....	....	59850	....	36100	1040	600	15050	5500	54900	1000		11,199 90
..	22180	....	....	..	532500	....	50750	....	43300	59500	....	85400	....		40,174 40
....	40000	....	....	..	1292000	....	50500	....	40100	58200	....	101700	....		79,779 00
....	67200	....	....	....	1975200	....	245640	....	27460	186500	....	113600	448000		148,560 00
....	51502	....	....	....	1153800	....	98000	....	....	456200	23200	70240	69000		100,399 36
....	17840	....	....	....	318000	....	68210	400	20420	157450	20020	70300	6000		35,406 00
....	....	....	....	....	....	....	25400	....	....	....	....	....	10000		1,824 00
....	5600	1500	..	..	121500	....	42110	....	3370	43500	19600	111000	....		16,321 80
....	204322	1500	....	....	5393000	....	580610	400	134650	961350	62820	552240	533000		422,464 56

RETURN of the Number and Value of Vessels, Boats

DISTRICTS.	VESSELS AND BOATS EMPLOYED.							FISHING MATERIALS.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
			$			$			$		$		$		$
Lake Ontario (including Niagara Division).															
Niagara River to Port Dalhousie	1	15	12000	2	25	2480	54	20100	3900	300	272	3	450		
Beamsville					10	270	20	6100	680	100	50				
Winona					3	225	7	4100	500						
Burlington Beach					20	1415	40	13300	1820	1200	650				
Bronte					13	1800	40	36500	4020						
Port Credit to Port Union					9	1020	18	4200	2050	250	160				
Pickering Harbour					3	600	8	2000	2200						
Brighton to Bowmanville					23	870	52	5700	720	500	425			11	220
Rice Lake and Tributaries															
Trent River															
Totals	1	15	1200	2	106	8680	239	92000	15890	2350	1557	3	450	11	220
Prince Edward County and Bay Quinte Division.															
Wellington Beach, Weller's Beach and Smith's Bay	3	30	8000	9	46	900	85	42000	3200	400	400			37	550
Bay Quinte, from Carrying Place to Mill Point					68	1230	230	3500	360	4300	3500			80	1800
Totals	3	30	8000	9	114	2130	315	45500	3560	4700	3900			117	2350

and Fishing Materials, &c.—**Ontario**—*Continued.*

Kinds of Fish.														Value.
Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herrings, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	Home Consumption, lbs.	$ cts.
....	100	100	....	101	438700	800	31600	...	2900	14500	2100	46000	.....	26,830 00
....	.....	1000	.....	.....	75500	...	200	.....	200	.....	1000	11700	.....	4,300 00
..	1500	6500	.....	.....	47000	...	.....	.....	...	.....	...	3500	...	3,125 00
....	1650	1100	.....	.....	212000	...	.....	.....	.....	.....	1700	113400	....	14,329 00
....	.....	2000	...	....	987000	500	...	.....	550	.....	1220	9800	....	49,968 00
...	1200	7500	....	250	121000	3100	....	.....	205	5000	2500	47700	.....	9,950 30
.....	.....	.....	.....	.....	200000	.....	.....	.....	.....	.....	.....	.....	.....	10,000 00
....	3600	560	....	..	6000	.....	.....	.....	.....	.....	25500	86300	..	4,508 00
.....	.....	.....	.....	.....	.....	.....	.....	150000	80000	.....	.....	.....	.....	13,800 00
....	.....	2000	...	...	.....	11000	2600	45000	45000	32000	23000	55000	....	11,136 00
....	8050	20760	....	351	2087200	15400	34400	195000	128855	51500	57020	373400	.....	148,046 30
...	140000	80000	.....	.....	60000	4000	..	.....	.....	10000	35000	135000	....	28,840 00
102	78400	.....	....	270	209500	1400	900	956	2890	21700	14350	195000	.....	27,085 26
102	218400	80000	....	270	269500	5400	900	956	2890	31700	49350	330000	.....	55,925 26

Return of the Number and Value of Vessels, Boats

Districts.	Vessels and Boats Employed.							Fish-	
	Vessels.				Boats.			Gill Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.
Lennox, Addington and Frontenac Division.			$			$			$
Lake Coast, fronting on Lennox and Addington, including Napanee River					23	720	44	3850	420
Amherst Island					23	450	45	6650	560
Inland Waters, County Frontenac									
Totals					46	1170	89	10500	980
Wolfe Island and Kingston Division.									
Pigeon Island					2	70	5	1650	150
Big Bay					1	35	2	275	30
Oak Point					1	25	1	100	12
Brother's to Howe Island					13	325	13	1045	275
Howe Island					7	125	8	1506	110
Gananoque									
Totals					24	580	29	4576	577
Rockport, Brockville and Cornwall Divisions.									
St. Lawrence River, from Rockport to Glengarry Co. Line									
Prescott, Russell and Carleton Cos. Divisions.									
Ottawa River fronting on these Counties and Inland waters									
Leeds and Lanark Division.									
Charleston Lake							10		
Beverly Lake							6		
Gananoque Lake							10		
Rideau and neighbouring Lakes					5	77	9		
River Tay and Tributaries					3	30	3		
Totals					8	107	38		
Renfrew Co. Division.									
Ottawa River fronting on County, including inland waters								350	150
Lake Nipissing Division					4	96	9	3800	266
Parry Sound and Muskoka do									
Wellington Co. do									
Lake Simcoe do									
Lake Scugog and River do	1	15	1800	3	200	3000	150		
Victoria County do									
Peterboro' Co. do									

and Fishing Materials, &c.—**Ontario**—*Continued.*

ING MATERIALS.				KINDS OF FISH.										VALUE.
Seines.		Hoop Nets.		Whitefish, lbs.	Trout, lbs.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Muskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	
Fathoms.	Value.	No.	Value.											
	$		$											$
25	35	33	650	32500			4200				34750		25100	5,690 00
				125000	3500	4000				2000	18000	18500		12,605 00
				1000	31700	2000	1000		1000	3500	2500	4300	7000	3,621 00
25	35	33	650	158500	35200	6000	5200		1000	5500	55250	22800	32100	21,916 00
					2600									200 00
		3	45				560					700	3000	155 00
								300				100	100	26 00
		36	288									6100	34600	1,343 00
		6	130				1400			700		6800	8300	715 00
							2800	6000	1500	4500		75000	6000	4,818 00
		45	463		2600		4700	6300	1500	5200		88700	52000	7,317 00
		40	350				12900	4000	4500	74200	3900	214800	361800	27,564 00
				800			6400	4000	7400	8000	9500	10000	90800	5,406 00
				500	1600					1000		1000	2000	370 00
		6	150	1000			200			1000		500	6700	378 00
		10	150										24000	720 00
		13	220									100	18650	564 50
		5	80			1200	200			2000	2000	1000	5000	512 00
		34	600	1500	1600	1200	400			4000	2000	2600	56350	2,544 50
				1600	1800		835	460	1900	2130	2900	3450	15025	1,424 75
								6000			16500	24900	46000	3,975 00
					23400				500	4000	5500	500	24000	3,685 00
					6000	30000	55000			2500		3000	42000	6,960 00
				1500	32500	10000			26300	45400	7000	43000	25000	11,492 00
							4000		250000	100000			150000	25,740 00
					1000	4000	1000		30000	20000	5000		6000	3,840 00
				2000	20000	5000	14000		120000	100000			30000	17,350 00

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Materials, the Number of Men employed, &c., with the Kinds and Quantities of Fish, in the Province of **Ontario**, for the Year 1890.

NAME OF DIVISIONS.	VESSELS AND BOATS EMPLOYED.							FISHING MATERIALS.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
			$			$			$		$		$		$
Lake Superior Division	6	242	9200	23	42	5160	96	94612	9085			15	5340		
Manitoulin do	13	287	21400	65	194	13400	272	208000	35200	2000	375	29	10650		
Georgian Bay do	15	360	39400	58	152	29040	378	733600	116205	465	550				
Lake Huron do	10	502	17300	51	131	18110	366	152200	35200	2414	9185	37	7350		
River and Lake St. Clair Division					57	1159	221			8205	9235				
Detroit River Division					25	724	106			720	1400	4	1000	3	105
Lake Erie do	12	163	16700	52	264	18775	474	24600	12349	6675	4275	197	56810		
Lake Ontario do	1	15	1200	2	106	8680	239	92000	15890	2350	1557	3	450	11	220
Prince Edward and Bay of Quinté Division	3	30	8000	9	114	2130	315	45500	3560	4700	3900			117	2350
Lennox, Addington and Frontenac do					46	1170	89	10500	980	25	35			23	650
Wolfe Island and Kingston do					24	580	29	4576	577					45	463
Rockport, Brockville and Cornwall do														40	350
Prescott, Russell and Carleton do															
Leeds and Lanark Division					8	107	38							34	600
Renfrew County do								350	150						
Lake Nipissing do					4	96	9	3800	266						
Parry Sound and Muskoka Division															
Wellington County Division															
Lake Simcoe Division															
Lake Scugog and River Division	1	15	1800	3	200	3000	150								
Victoria County Division															
Peterboro' do															
Totals	61	1614	115000	263	1277	102131	2782	1369738	229462	27554	30512	285	81600	283	4738

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Materials, &c.—Province of **Ontario**—*Concluded.*

NAME OF DIVISIONS.	KINDS OF FISH.														VALUE.
	Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herring, Fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskimongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse Fish, lbs.	Home Consumption, lbs.	$ cts.
Lake Superior Division	432	892000	530800	807		4000		97400			90000		45000	36300	150,713 00
Manitoulin do	1482	2236400	731840	842				106050			170850	7100	22200	16800	293,475 00
Georgian Bay do	540	2858000	2444000	760	332	12000		21000	5000	114000	464300	31000	26400	131000	530,498 00
Lake Huron do	1511	139820	1100650	1550	4660	414700		223750		9200	182100	300	39900	213400	223,752 60
River and Lake St. Clair Division		20800	41000		812	139500		12000	5910	17670	142120	10580	181400	34150	33,644 50
Detroit River Division		38600				59850		34100	1040	600	15050	5500	54900	1000	11,199 90
Lake Erie do		204322	1500			5393000		580610	400	134650	961350	62820	552240	533000	422,464 56
Lake Ontario do		8050	20760		351	2087200	15400	34400	195000	128855	51500	57020	373400		118,046 30
Prince Edward and Bay of Quinté Division	102	218400	80000		270	269500	5400	900	956	2890	31700	49350	330000		55,925 26
Lennox, Addignton and Frontenac do		158500	35200			6000	5200		1000	5500	55250	22800	32100		22,620 00
Wolfe Island and Kingston do			2600				4700	6300	1500	5200		88700	52000		7,317 00
Rockport, Brockville and Cornwall do							12900	4000	4500	74200	3900	214800	361800		27,564 00
Prescott, Russell and Carleton do		800					6400	4000	7400	8000	9500	10000	90800		5,406 00
Leeds and Lanark Division		1500	1600			1200	400			4000	2000	2600	56350		2,544 50
Renfrew County do		1600	1800				835	460	1900	2130	2900	3450	15025		1,424 75
Lake Nipissing do								6000			16500	24900	46000		3,975 00
Parry Sound and Muskoka Division			23400						500	4000	5500	500	24000		3,685 00
Wellington County Division			6000			30000	55000			2500		3000	42000		6,960 00
Lake Simcoe Division		1500	32500			10000			26300	45400	7000	43000	25000		11,492 00
Lake Scugog and River Division							4000		250000	100000			150000		25,740 00
Victoria County Division			1000			4000	1000		30000	20000	5000		6000		3,840 00
Peterboro' do		2000	20000			5000	1400		120000	100000			30000		17,350 00
Totals	4067	6782292	5074650	3959	6425	8435950	125235	1132970	651406	778795	2216520	637420	2556515	965650	2,009,637 37

RECAPITULATION

Of the Yield and Value of the Fisheries in the Province of **Ontario**, during the Year 1890.

Kinds of Fsh.		Quantity.	Prices.	Value.
			$ cts.	$ cts.
Whitefish	Brls.	4,067	10 00	40,670 00
do	Lbs.	6,782,292	0 08	542,583 36
Trout	do	5,074,650	0 10	507,465 00
do	Brls.	3,959	10 00	39,590 00
Herring, salted	do	6,425	4 00	25,700 00
do fresh	Lbs.	8,435,950	0 05	421,797 50
Eels	do	125,235	0 06	7,514 10
Sturgeon	do	1,132,970	0 06	67,978 20
Maskinongé	do	651,406	0 06	39,084 36
Bass	do	778,795	0 06	46,727 70
Pickerel	do	2,216,520	0 06	132,991 20
Pike	do	637,420	0 05	31,871 00
Coarse fish	do	2,556,515	0 03	76,695 45
Home consumption, not included in the above	do	965,650	0 03	28,969 50
Total for 1890				2,009,637 37
do 1889				1,963,122 80
Increase				46,514 57

Statement showing the Number and Value of Vessels, Tugs and Boats, &c., in Ontario, during the Year 1890.

Articles.	Value.
	$ cts.
61 vessels or tugs (tonnage, 1,614)	115,000 00
1,277 boats	102,131 00
1,369,738 fathoms of nets	229,462 00
27,554 do seines	30,512 00
285 pound nets	81,600 00
283 hoop nets	4,738 00
Number of men employed, 3,045.	563,443 00

PART II.

REPORT

ON

FISH-BREEDING OPERATIONS

IN THE

DOMINION OF CANADA

1890.

PRINTED BY ORDER OF PARLIAMENT.

OTTAWA:
PRINTED BY BROWN CHAMBERLIN, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY.

1891.

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FISH-BREEDING REPORT.

SUPERINTENDENT'S REPORT ON FISH-BREEDING OPERATIONS, 1890.

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REPORT

—OF—

MR. SAMUEL WILMOT,

Superintendent of Fish Culture for the Dominion of Canada,

FOR THE YEAR 1890.

The Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—The following report on the condition of, and transactions connected with, fish-breeding operations in Canada during the year 1890, inclusive of other subjects relative thereto, is herewith submitted. The report will include the following matter, namely:—

1. A general statement of the gross output of artificially bred fry from the several fish hatcheries in Canada during the past year, in which will be given the particular numbers, description and species of fry, amounting in the whole to a grand total of 90,213,000 young fish, distributed in many of the waters of Canada.

2. Tabulated statements are also given particularising the numbers and species of young fish and eyed eggs, which were distributed from, and received at, each of the twelve fish hatcheries in the several Provinces of the Dominion during the past season.

3. A schedule will also be found in which the individual quantities are given of the different kinds of fish eggs that were collected and placed in the hatching troughs, and automatic incubators in each of the hatcheries in the several Provinces during the past season of 1890, amounting in the gross to 144,613,000 ova of the superior kinds of fresh and salt water fishes of Canada.

4. Another general statement is given which shows the gross numbers of fry of all kinds which have been bred and turned out of the several individual hatcheries into the waters of Canada since the first inception of the science of artificial fish culture as a governmental work in 1868, making a grand exhibit of 799,757,900 young fish of many species, comprised almost wholly of the higher grades of commercial fish indigenous to Canadian waters.

5. A summary is given of the particular transactions at each of the individual hatcheries which have been in operation during the past year, describing briefly the amount of work performed at each, in relation to the output of fry, the capture of parent fish, the collecting of ova, and the present condition of these establishments, and their wants, together with other remarks of a general character connected with these institutions.

LOBSTER BREEDING.

6. In view of the commencement of the enterprise of breeding lobsters by the artificial methods in Canada during the coming season of 1891, particulars are given relating to a prospecting trip to the newly established lobster and cod hatchery at Dildo Island, in Newfoundland, and of the selection of a site for the erection of a similar establishment on the Northumberland Strait in Nova Scotia; both subjects are

embodied in this report, and views are contained in them setting forth the great necessity that exists for establishing more stringent regulations for the protection of the lobster, and for the prevention of the too general destruction of berried, undersized and immature lobsters, now so largely practised by the lobster fishermen and lobster packers throughout the Maritime Provinces, where this valuable crustacean is at the present time so avariciously sought after. In these papers will also be found other matters relating to the successes attending the artificial breeding of the lobster in Newfoundland and in the United States.

SALMON FISHERIES.

7. The subject of the salmon fisheries and of salmon nets is discussed in a memorandum which was submitted to the Department; it refers more particularly to the system which prevails in the Bay des Chaleurs in the Provinces of Quebec and New Brunswick; and a description is given of the inequality which exists regarding the modes of fishing by fishermen on either side of the bay, and of the relative positions in which the netters and the anglers stand towards each other, with reference to the general maintenance or depletion of the salmon fisheries generally.

FISH LADDERS.

8. Fish ladders or fish passes are also referred to in this report, in which is shown the necessity that exists for the Department to adopt the best and present most practically approved fish way which shall be built in mill dams, or where other artificial and natural barriers exist, in order to allow fish to pass up freely to their natural breeding grounds or rivers, and other waters; and where these barriers now prevent the ascent of these fish, thereby causing the present rapid extermination of fish life in many parts of the country.

SALMON CULTURE.

9. A few extracts from some of the reports of officers in charge of hatcheries are given of the successes attending the transferring of the fry of the Restigouche salmon into waters of the Miramichi River, with a view to acclimatising and introducing the larger Restigouche salmon into the Miramichi, which latter river produces a smaller description of the salmon family. The experiment has been successful.

An interesting account is also given of the successful stocking of the Hudson River, in the United States, with salmon, in which this valuable fish has not been known to inhabit for the past century.

An article on the successful results of planting artificially bred whitefish fry in Lake Erie is also appended.

APPENDICES.

10. In the Appendices to this report will be found the reports of the several officers in charge of the individual hatcheries in operation in the Dominion, in which the more minute details of all work connected with each establishment are fully given.

ANNEX TO THIS REPORT.

11. In the annex to this report will be found certain correspondence relating to the proposed improvement of the whitefish industry in Lake Ontario, by the Commissioners of the State of New York; and also further correspondence between Marshal Macdonald, United States Commissioner of Fisheries, and Honourable Levi P. Morton, Vice-President of the United States, with the report of the United States' Congress, for the erection of a United States' Salmon and Whitefish Hatching Station on Lake Ontario," which will prove one of the most important stations of the United States Commission of Fish and Fisheries.

An article on the results of fish culture, from *Forest and Stream*, by W. N. Byers, of Columbus, Ohio, in which he defends artificial fish culture against the attacks made upon it by others.

A very instructive paper is also annexed taken from the *Edinburgh Scotsman* on Aquaculture, by George Malcolm, Invergarry, showing the progress of fish culture, its present condition and results in various countries of the world.

1.—GENERAL STATEMENT OF THE OUTPUT OF FRY, AND OF THE COLLECTION OF FISH EGGS AT THE SEVERAL HATCHERIES IN 1890.

The gross output of fry of all kinds from the hatcheries in Canada during 1890 was 90,213,000, as follows:—

Atlantic salmon (*Salmo Salar*)	9,861,000
Pacific salmon, Suckeye (*Oncorhyncus nerka*)	6,730,000
Salmon trout, Great Lakes (*Naymacush*)	8,721,000
Brook trout, rivers and streams (*Fontinalis*)	376,000
Whitefish, Lake Region (*Coregoni*)	42,525,000
Pickerel, doré (*Luciopercha*)	22,000,000
Total	90,213,000

2.—The following table gives a statement of the numbers of the young fish and semi-hatched eggs that were distributed from each of the hatcheries during 1890. The name of each hatchery in each of the Provinces is shown on the schedule, opposite which is given the gross number of fry, and the species which were put out from each nursery, together with the quantities of eyed-eggs sent from, and received at, some of the hatcheries.

The particular lakes, rivers and other waters in which the fry were planted, will be found minutely described in the reports of the several officers in charge of each of the establishments, in the appendices hereto attached.

SCHEDULE showing the Number of Fry and Eyed-eggs Distributed from the Individual Hatcheries in 1890.

Number.	Hatchery.	Fry Put Out.	Eyed-eggs sent to other Hatcheries.	Eyed-eggs Received from other Hatcheries.	Description of Fish.
1	Fraser River, B.C.	6,640,000			Salmon, sea.
2	Sydney, C.B., N.S	1,953,000			do
3	Bedford, N.S.	1,480,000			do
	do	370,000		500,000	Salmon trout.
	do	10,000		15,000	Speckled trout.
	do	2,000,000		2,000,000	Whitefish.
4	Dunk River, P.E.I	Not in operation			
5	St. John River, N.B	482,000		500,000	Salmon, sea.
	do	1,000,000		1,500,000	Salmon trout.
	do	10,000		15,000	Speckled trout.
	do	2,000,000		2,000,000	Whitefish.
6	Miramichi, N.B.	1,022,000			Salmon, sea.
7	Restigouche, Que.	2,396,000	525,000		do
8	Gaspé, Que.	806,000			do
9	Tadoussac, Que.	1,700,000			do
10	Magog, Que.	1,600,000		2,000,000	Salmon trout.
	do	1,275,000		2,000,000	Whitefish.
11	Newcastle, Ont.	4,700,000	5,500,000		Salmon trout.
	do	2,750,000		3,000,000	Whitefish.
	do	286,000	105,000		Speckled trout.
12	Sandwich, Ont.	30,000,000	15,000,000		Whitefish.
	do	22,000,000			Pickerel, doré.
13	Ottawa, Ont.	112,000		175,000	Salmon, sea.
	do	1,051,000		1,500,000	Salmon trout.
	do	70,000		75,000	Speckled trout.
	do	4,500,000		6,000,000	Whitefish.
	Totals	90,213,000	21,270,000	21,270,000	

3.—FISH EGGS COLLECTED AND PLACED IN THE HATCHERIES IN 1890.

The following table will show the numbers and descriptions of fish ova collected and put in the troughs and incubators of the individual hatcheries throughout the Dominion in 1890. The Magog, St. John River and Ottawa Hatcheries are supplied at the proper season of the year with their quota of impregnated eggs from the Newcastle and Sandwich nurseries in Ontario; and in the case of salmon ova for the St. John River Hatchery, from the Restigouche establishment in Quebec. The total number of eggs collected, as shown below, amounted to 144,613,000.

No.	Hatchery.	Province.	No. of Eggs.	Species.
1	Fraser River	British Columbia	3,861,000	Pacific salmon.
2	Sydney	Nova Scotia	1,218,000	Atlantic salmon.
3	Bedford	do	400,000	do
4	Dunk River	Prince Edward Island		Not running at present.
5	*St. John River	New Brunswick		
6	Miramichi	do	810,009	Atlantic salmon.
7	Restigouche	Quebec	1,800,000	do
8	Gaspé	do	1,020,000	do
9	Tadoussac	do	1,879,000	do
10	*Magog	do		
11	Newcastle	Ontario	11,125,000	Salmon trout.
	do	do	500,000	Brook trout.
	do	do		Whitefish.
12	Sandwich	do	90,000,000	do
	do	do	32,000,000	Pickerel, doré.
13	*Ottawa	do		
	Total Eggs, 1890		144,613,000	

* These hatcheries will obtain their supplies of semi-hatched eggs from Newcastle and Sandwich during January or February next.

4.—GRAND TOTAL OF YOUNG FISH OF ALL KINDS PUT OUT OF THE SEVERAL CANADIAN FISH HATCHERIES FROM THE ORIGIN OF THE INDUSTRY UP TO THE PRESENT TIME, 1890.

The following schedule shows the gross output of fry of all kinds, from each hatchery in each Province, the name of the hatchery, the Province where located, the year in which they were each established exhibiting a total number of fry of all species amounting to 795,757,700 :—

STATEMENT showing the Places where, and the Years in which the several Fish Hatcheries have been erected; also the number of Fry distributed from each Establishment, annually, since they were built.

YEAR	ONTARIO.			QUEBEC.				NEW BRUNSWICK.		NOVA SCOTIA.		PRINCE EDWARD ISLAND.	BRITISH COLUMBIA	TOTALS.
	Newcastle.	Sandwich.	Ottawa.	Magog.	Tadoussac.	Gaspé.	Restigouche.	Miramichi.	St. John River.	Bedford.	Sydney.	Dunk River.	Fraser River.	
	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1868-1873.	1,070,000													1,070,000
1874	350,000						100,000	60,000						510,000
1875	650,000			60,000	110,000	600,000	150,000							1,570,000
1876	700,000	8,000,000		150,000	50,000	300,000	60,000			395,000				9,655,000
1877	1,300,000	8,000,000		1,180,000	1,051,000	600,000	320,000			1,000,000				13,451,000
1878	2,605,000	20,000,000		707,000	650,000	1,015,000	665,000			1,400,000				27,042,000
1879	2,602,700	12,000,000		1,250,000	1,597,000	1,470,000	1,025,000			1,740,000				21,684,700
1880	1,923,000	13,500,000		1,155,000	730,000	1,500,000	805,000	170,600		730,000		500,000		21,013,600
1881	3,300,000	16,000,000		200,000	334,000	500,000	740,000	770,000	50,000	680,000		375,000		22,949,000
1882	4,841,000	44,000,000		975,000	690,000	530,000	1,400,000	640,000	588,000	850,000	315,000	1,060,000		55,799,000
1883	6,053,000	72,000,000		250,000	995,000	520,000	300,000	925,000	72,600	800,000	659,000	1,210,000		83,784,600
1884	8,800,000	37,000,000		100,000	985,000	859,000	940,000	795,000	811,000	1,000,000	853,000	1,000,000		53,143,000
1885	5,700,000	68,000,000		300,000	720,000	290,000	660,000	900,000	155,000	670,000	772,000	1,100,000	1,800,000	81,067,000
1886	6,451,000	57,000,000		1,400,000	1,627,000	576,000	1,380,000	945,000	2,181,000	960,000	1,179,000	400,000	2,625,000	76,724,000
1887	5,130,000	56,500,000		675,000	900,000	630,000	1,500,000	900,000	2,479,000	4,230,000	1,415,000	500,000	4,414,000	79,273,000
1888	8,076,000	56,000,000		3,475,000	850,000	800,000	1,720,000	1,290,000	4,142,000	4,390,000	1,559,000		5,807,000	88,109,000
1889	5,846,500	21,000,000		2,800,000	1,600,000	450,000	1,280,000	850,000	3,570,000	3,850,000	2,034,500		4,419,000	68,700,000
1890	7,736,000	52,000,000	5,733,000	2,875,000	1,700,000	806,000	2,396,000	1,022,000	3,492,000	3,860,000	1,953,000		6,640,000	90,213,000
Totals	73,134,000	541,000,000	5,733,000	13,050,000	14,813,000	10,149,000	17,901,000	12,122,000	17,702,200	26,555,00	10,739,500	6,145,000	25,705,000	795,757,900

The particular descriptions of Fry above enumerated were as follows:—

Salmonidae—Atlantic and Pacific salmon, salmon trout of the Great Lakes, and speckled trout of the Streams	201,767,000
do Whitefish *(Coregonus)* of the Great Lake region	377,775,000
Percidae—Pickerel, or Doré *(Lucioperca)* and Black Bass	216,215,900
Grand Total of all kinds	795,757,900

NOTE.—In addition to the above written 73,134,000 fry distributed from the Parent Establishment at Newcastle, there has been transferred from this institution to the Eastern Province Hatcheries 34,200,000 of semi-hatched ova. Grand total, 107,334,000.

In like manner the Sandwich Nursery has transferred 50,500,000 of eyed eggs to other hatcheries, exclusive of the 541,000,000 of fry put out.

5.—SUMMARY OF TRANSACTIONS OF EACH OF THE HATCHERIES IN THE DOMINION DURING THE SEASON OF 1890.

1.—FRASER RIVER HATCHERY, BRITISH COLUMBIA.

The crop of young salmon of the suck-eye family put out of the Fraser River Hatchery during 1890, was larger than formerly, amounting in the whole to 6,640,000. They were planted in some of the most important lakes and rivers of British Columbia, where reasonable means of transportation was at hand for safely performing the work. The distribution throughout was satisfactory and safely accomplished.

The capture of parent salmon during the past autumn was considerably less than formerly. The operations were commenced somewhat later in the season, when freshets set in swelling the streams and bringing down débris of all kinds, breaking open the pens or reservoirs containing the parent salmon and allowing them to escape; the consequence was only 3,861,000 eggs were collected; about one-third of the quantity obtained in 1889. These were placed in the hatchery in very fair condition, and are doing well at the present time.

Certain repairs were required to put the hatchery and water supply in good working condition. This has been done, but it is suggested that further improvements should not be of an extensive character in view of the contemplated erection of a more commodious and convenient hatchery on Morris Creek, some distance up the Harrison River, where the parent salmon can be easily captured earlier in the season and kept alongside in a safely constructed reservoir until required for spawning purposes; thus insuring a certainty of procuring full supplies of eggs, and avoiding the doubts and uncertainties which has hitherto prevailed in collecting eggs in the open river by netting later on in the season. It is confidently expected that by the building of a hatchery at Morris Creek with the reservoir attached, ample accommodation will be had for putting down 20,000,000 to 25,000,000 of eggs annually.

The present hatchery from the good work it has already done, with its small accommodation, for improving the Fraser River fisheries from the general report of the salmon canners and the public generally, warrants the early construction of a larger and more commodious establishment at Morris Creek.

2.—SYDNEY HATCHERY, CAPE BRETON, PROVINCE OF NOVA SCOTIA.

There were hatched and distributed from this hatchery in 1890, 1,953,000 young salmon of the *salar species*. They were put in some twenty of the more important rivers and brooks in the several counties of Cape Breton. On account of the lateness of the application for fry for Mabou River, last season, none were put there; this river will receive due consideration another year.

The collection of eggs last autumn was fairly satisfactory; several rivers were netted, and 437 parent salmon were caught, 342 of these were females, and gave 1,218,000 eggs. The heavy rains which prevailed enlarged the rivers and made the capture of salmon less successful, otherwise a larger crop of eggs would have been secured. The eggs to all appearances are doing well, and a large crop of fry may be expected.

The hatchery is in good repairs, having undergone a general overhauling by putting down new floors, sills, &c., which had become much decayed. The only requirement now will be painting, when the establishment may be quite complete for the next ten years.

Satisfactory reports are given of an evident increase of salmon in the streams where fry have been planted, from the Sydney Hatchery, in past years. It is suggested that fry of the land locked salmon should be put in certain lakes near Margaree, as at present these waters are useless for the want of some fish in them.

3.—BEDFORD HATCHERY, PROVINCE OF NOVA SCOTIA.

Unqualified success is reported to have taken place with the hatching and distributing of fry from this hatchery during 1890. The difficulties experienced in hatching salmon trout fry in former years were overcome, and the yield proved most satisfactory.

About 500,000 of the salmon trout eggs, and 2,000,000 of whitefish ova, were obtained from the Ontario hatcheries, and placed in the Bedford nursery in good condition.

The fry from these eggs were planted in various lakes in several of the counties of Nova Scotia, amounting in the gross to about 2,370,000. In addition to these fresh water fishes, there were also put out from this hatchery 900,000 of the sea salmon, making a grand total distributed of 3,850,000 fry.

Six subsidiary hatcheries have been established in the more distant counties from the head establishment at Bedford, where they have proved to be most satisfactory for helping in the general work of fish culture in Nova Scotia. Semi-hatched eggs are transferred to these small provisory hatcheries from the larger one, at certain times, and there hatched; whereas fry could not be sent to these localities by reason of their remoteness, and the impossibility of carrying fry to them at the season in which the young fish require to be put out. These subsidiary hatcheries proving to be of such service, it is in contemplation to build others in other counties in Nova Scotia, where the benefits from artificial fish culture are anxiously sought for. It is contended that whilst the benefits already realized from fish culture are very satisfactory, yet the work has been carried out on too limited a scale to give such general effect to artificial culture as the exigency demands.

The usual success did not attend the collection of eggs the past season, difficulties of various kinds interfered in the capture of the requisite number of parent salmon. Heavy freshets carried the fish beyond reach in the Musquodoboit River—the usual place of dependence for procuring eggs. Wallace River was then resorted to, where a number of salmon were netted and impounded, awaiting the spawning time. A work of vandalism was done by certain of the inhabitants, by which the reservoir for keeping the salmon in was destroyed, and the mother fish killed and carried away, thus causing the loss of 54 parent fish laden with some 500,000 ripe fruitful eggs. This act of these miscreants has lowered the usual supply of ova for the Bedford Hatchery this season. These poachers remain as yet undiscovered. From the above misfortunes only 400,000 eggs were laid down, barely one-fifth of the previous year's supply. Timely preparations were made by which a largely increased supply of water was brought into the hatchery, anticipatory of enlarged operations during 1890–91, which will not now be realized from the wanton destruction of the parent fish as related. It is proposed to supplement this season's reduced supply of salmon eggs, by transferring numbers of salmon-trout and whitefish eggs from the Newcastle and Sandwich Hatcheries in Ontario to Bedford.

Some minor repairs are required in the way of mending and painting the roof, and strengthening a portion of the foundation dividing the hatchery from the dwelling part of the establishment.

4.—DUNK RIVER HATCHERY, PROVINCE OF PRINCE EDWARD ISLAND.

This hatchery has not been running since 1888. Arrangements are being made by which the whole establishment will be put in order for fish cultural purposes for the coming season of 1891.

5.—ST. JOHN RIVER HATCHERY, PROVINCE OF NEW BRUNSWICK.

This hatchery has been supplied with semi-hatched eggs from the Restigouche, Newcastle and Sandwich nurseries for the past three years. The eggs of the "salmo salar" are obtained from the Restigouche Hatchery, and eggs of the salmon-trout and whitefish are supplied from the two latter hatcheries in Ontario. Prepa-

rations are being made to secure supplies of parent fish from the St. John Harbour fishermen, and impound the salmon in some convenient reservoir, until the spawning time, when the eggs will be gathered and conveyed to the St. John nursery for hatching. By this means, it is contemplated, full supplies of ova will be obtained without trespassing upon the stock deposited in the several hatcheries in other parts of the Dominion. About 4,000,000 of eyed-eggs of the salmon, salmon trout, and whitefish were transferred in this way to the St. John Hatchery during 1890. These were duly hatched and distributed, where applied for, in many of the lakes and rivers of New Brunswick. The work throughout was performed most successfully. A considerable amount of repairing has been performed on the hatchery during the past year, which will place the establishment in a first-class condition for work for some years to come.

The officer in charge reports the taking of salmon trout and whitefish in some of the waters where fry were planted from this hatchery in former years and in waters, too, which these fish were not formerly known to inhabit. Evidenceso which are to hand from several reliable persons and fishermen.

6.—MIRAMICHI HATCHERY, PROVINCE OF NEW BRUNSWICK.

The work at this institution resulted very satisfactorily, from the fact of no less than 1,022,000 of the young of the Atlantic salmon having been turned out from it into the principal tributaries of the Miramichi River. The experiment of planting some of the fry of the Restigouche salmon, which had shown such satisfactory results in the capture of adult fish of that family from previous years' plantings, was renewed during the past year, by a further transfer of about 40,000 Restigouche fry to the waters of the North-West Miramichi River.

Difficulties attended the collection of the usual supplies of eggs here during the past autumn. Although the parent salmon were very plentiful in the river, yet the extreme freshets which prevailed last season prevented the possibility of capturing the necessary stock of salmon to fill the hatchery with its accustomed quantity of eggs. It was only possible to net 195 fish, of which 111 were females, which gave 810,000 eggs. This number was much below that of 1889.

It is proposed to overcome this difficulty of capturing parent salmon during the heavy autumn freshets, by making preparations to catch them from the earlier runs and impound them till required, in like manner as at some of the other hatcheries where the system has been worked out with the utmost satisfaction.

During the past season certain necessary repairs have been made to the buildings, dams and other appliances, which will place this institution in proper working condition for many years to come.

Appended to the main report will be found many certificates from the most reliable sources to show the undoubted benefits which have resulted from the putting out of young salmon from this hatchery during former years.

7.—RESTIGOUCHE HATCHERY, PROVINCE OF QUEBEC.

The output of salmon fry from this hatchery was considerably in excess of any previous year, the number reached 2,396,000. They were planted largely in the Main Restigouche River, and also in many of its tributaries, and in other rivers elsewhere as follows:—

The Kedgwick, Upsalquitch, Metapedia, Caraquet, Jacquet, Nipisiquit, Middle and Miramichi. In addition to this number of young salmon, there were also transferred to the St. John River Hatchery 500,000 semi-hatched ova, thus making a grand total of 2,869,000 salmon fry and eyed eggs put out of the Restigouche Hatchery in 1890.

The quantity of eggs procured the past season of 1890 was far below that of 1889, caused by the first and largest run of salmon having passed up river during the prevalence of an extraordinary high freshet, which prevented the setting or working of the nets in the river. Only 307 fish were secured, 175 of these were females, which gave 1,800,000, a trifle over half obtained in 1889.

The Departmental net hitherto set at the Mission Point Station has not done as well as was expected; it is therefore proposed to remove from this station further up the river to Pitt's Creek nearer to the reservoir, where a trial was made late in the season with a certain amount of success.

The several nets in use will require repairing, and a new net will also be required for next season. The reservoir will require strengthening with new timbers, cross-ties, stakes, and wire netting, at a probable cost of $200; certain other repairs will also be required to the hatchery, such as painting the roof, plastering the ceilings to give additional warmth, more distributing cans and other matters costing about $200. The estuary and coast salmon fisheries were not quite up to the average, by reason of the unprecedented freshets from the river, which carried away and otherwise damaged these nets. Fly fishing, however, up river after the subsidence of the floods was never known to be better. The pools and river generally were unusually full of fish. From the improvement of angling on the river of late years property has risen to almost fabulous prices, caused by the prevailing opinion of those well acquainted with the subject, from the protection given for the natural spawning of the salmon, and the very liberal annual planting of young fry from the Restigouche Hatchery.

8.—GASPÉ HATCHERY, PROVINCE OF QUEBEC.

The number of fry bred at this hatchery in the season of 1890 was 806,000. They were planted in the St. John, York and Dartmouth Rivers, all emptying into the Gaspé Bay, near to where the hatchery is located. The planting was performed satisfactorily during June and July.

The Departmental nets for netting parent fish were kept down from 4th June till 1st September. The total number of salmon caught and purchased was 83, of these 50 were females and gave 620,000 eggs. These were supplemented by a further number of 400,000 collected from salmon taken in the York River later in the fall, making a total of 1,020,000.

The hatchery is reported to be in first-class condition, excepting painting on the outside which will cost about $30. Considerable damage was done to the trap-nets and reservoirs, from the great freshet which appears to have prevailed generally throughout the Provinces. These repairs will require early attention at the coming spring.

Net fishing and angling are reported to have been satisfactory. There were a large number of nets set in the tidal waters, and they had a successful year. They make a heavy drain upon the rivers. With this improved catch the conclusion is that the work of protection and propagation is conferring benefits to those engaged in the salmon industry.

9.—TADOUSSAC HATCHERY, PROVINCE OF QUEBEC.

One million seven hundred thousand salmon fry were put out of this hatchery last year in the several tributaries of the Saguenay River and in some small lakes which discharge into the St. Lawrence. A steam tug was employed to convey the fry to the Upper Saguenay. They were all put out under the personal oversight of the officer in charge of the hatchery.

The Departmental nets were put out in May; the first fish were caught on the 27th, and, up to the 3rd July, 980 salmon were caught, when the nets were taken up by instructions. If the nets had been kept down the rest of the season the probabilities are that this number might have been nearly doubled, as about the beginning and during the month of July the salmon principally pass up river. The Sunday close time was kept, giving only 33 days' fishing, in which an average daily catch of 30 salmon was made. This catch is almost unprecedented. Some days the catch ran thus: 71, 81, 93, 102, the highest being 111. Of the 980 captured only 325 were kept for hatching purposes; the remaining 655 were set at liberty without any

injury. Of the number kept 185 were females, from which an average of about 10,000 eggs each were gathered, making a total of 1,879,000 ova laid down in the hatchery and completing the work of spawning on the 15th November.

The increase in the catch of salmon in that immediate district is truly phenomenal. With exactly the same number of nets set by fishermen the increase has been very great from 1886 to 1890. In 1886, 14,790 lbs. were taken; in 1890, 61,000 lbs. were caught, and this does not cover the actual quantities, as the fishermen invariably give in smaller returns in order to prevent, as they think, an increase in their license fees. The accounts from the anglers and guardians of the St. Margaret River, especially, are most gratifying as to the immense number of salmon seen in it; they report seeing and counting 100 salmon in passing through a single pool. The guardians on the other rivers also give similar pleasing accounts of the great numbers of fish seen by them. Even as far up as the River Shipshaw, at the upper waters of the Saguenay, salmon were reported as plentiful. Large schools of small sized salmon, about 25 inches long, were seen passing up and down the Saguenay, in the neighbourhood of the wharf near the hatchery. About 100 of these on the 18th November came into the reservoir at the hatchery and mixed with some of the parent salmon which had not yet left the pond. The evidence from all quarters was most satisfactory.

Extensive repairs are necessary to make the present old dilapidated hatchery suitable to carry on the work in the future. Decay has set in throughout in the foundations of the building, which rest largely upon slabs built up from the refuse which collected when the building was originally run as a saw mill.

The proposition made by the officer in charge regarding the hatchery is entitled to the favourable consideration of the Department, namely, to dispense with any further expenditure upon the old building at Tadoussac and put up a new one at or near Chicoutimi on the Shipshaw River, where all desirable conveniences are to be had, both for hatching and distributing purposes, and where the results would be more beneficially and economically experienced than is the case at the present site at Tadoussac.

10.—MAGOG HATCHERY, PROVINCE OF QUEBEC.

This hatchery is supplied with its quota of eggs from the Newcastle and Sandwich establishments in Ontario. From the semi-hatched ova obtained in this way, some 3,900,000 fry of the whitefish and salmon trout were hatched and put out of the Magog Hatchery into the lakes in the Counties of Megantic, Stanstead, Brome and Sherbrooke.

Reports from fishermen and others living along the lakes go to show that an increase in the catch of salmon trout and whitefish is apparent. The increase in the salmon trout is slower on account of the extensive poaching carried on in the large areas which the present too limited number of guardians have to oversee. Some small repairs and some additional apparatus will be required for the hatchery.

11.—NEWCASTLE HATCHERY, PROVINCE OF ONTARIO.

The work in this primary institution for artificial fish culture in Canada was quite successful during the past year. There were transferred from this hatchery to the Lower Province nurseries 5,500,000 semi-hatched eggs of the salmon trout, speckled trout and whitefish species. There were also distributed in numerous lakes, rivers and streams in Ontario 7,841,000 fry of the salmon trout, speckled trout and whitefish, making a grand total of 13,441,000 fry and eyed-eggs put out of the Newcastle establishment, all of which are reported to have been distributed in good condition. The several waters in which they are planted are particularly described in the Newcastle report in the appendix.

Certain repairs were made which will make the hatchery efficient for work for a length of time; the outside of the building, however, requires re-painting, as many years have passed since it was first painted. This should be done in the coming

spring to prevent further outside wear by the weather. The several ponds connected with the hatchery, and the dams, race-ways and other appliances for conducting the water supply to the buildings, are in safe condition.

The work of collecting supplies of ova at Wiarton for Newcastle, as well as the hatcheries in the Lower Provinces, resulted most successfully; some difficulty was experienced in procuring assistance for setting the pound-nets, as few experts at this class of work are to be found. It is expected that one of the regular employees of the hatchery from the experience gained will be able to perform this work another season.

The quantity of ova collected at Wiarton the past season was very large and was satisfactorily obtained; upwards of 11,000,000 were collected between the 1st and 23rd November; all of them were safely transported by railway under the immediate charge of an expert, and deposited in the hatching troughs at the Newcastle establishment, where it is reported they are progressing very favourably. The diary connected with the work at Wiarton will be found attached to Mr. C. Wilmot's report in the appendices.

The usual quantities of eyed eggs will be transferred from Newcastle to the hatcheries of the Maritime Provinces at the proper time for their safe transport.

12.—SANDWICH HATCHERY, PROVINCE OF ONTARIO.

From the quantity of whitefish ova deposited in this hatchery in the fall of 1889, 15,000,000 of them in a semi-hatched state, were transferred to other hatcheries in the east, and 30,000,000 produced fry, which were liberally planted in the waters of Lakes Huron, Erie, Ontario and St. Clair, and in the Detroit River. They were put out in good condition, and will no doubt further add to the benefits which have already been experienced by similar deposits of fry in these waters during former years.

In addition to the above described whitefish product from this hatchery, there were also hatched and distributed from it 22,000,000 of pickerel (doré) fry; these were also planted in well adapted waters for their after growth. The total of whitefish and pickerel put out of the Sandwich nursery during the season of 1890 amounted to 67,000,000. Improvements which were made during the past summer, will give accommodation for putting down upwards of 100,000,000 of whitefish ova during the breeding season of these fish in the autumn, exclusive of such numbers of the pickerel eggs as may be obtained during their spawning time in the spring of the year. The improvements include the general overhauling of the hatching room, by which its whole area has been utilised for hatching purposes; and specially in the setting up of 600 automatic incubators in place of 350 formerly worked; together with other necessary appliances to facilitate more extended hatching capacity in the establishment generally. These improvements were completed in time for last autumn's work, and have been found to answer the purpose admirably.

The quantities of eggs collected and put in the hatchery during 1890, were as follows:—Whitefish eggs, 90,000,000 in the month of November last; and of pickerel, in April last, 32,000,000. The product of the pickerel eggs have already been referred to, as being put out last spring; whilst the 90,000,000 of whitefish eggs whose period of incubation extends through the winter months, cannot be accounted for till the spring of 1891.

The method of procuring whitefish eggs last fall was more satisfactorily performed, and resulted in obtaining about one-third more in number than in 1889. The quantities being in 1888, 40,000,000; in 1889, 70,000,000, and in 1890, 90,000,000. This satisfactory result was brought about by the Department taking full control of the whitefish fisheries on the Detroit River during the "close season" of the month of November, and enforcing the close time as against all fishermen; and by carrying on the work under the management of the officer in chage of the hatchery. This system should be continued in the future, but upon even a more exclusive plan than in 1890, by which the "close season" shall be inviolably kept by all—and the Department to exercise its own right of capturing sufficient supplies of parent fish, by its own officers, with the necessary plant of nets, and other material requisite to fully perform the work.

Herring which were a short time ago very abundant in the Detroit waters, are showing evident signs of decrease, and the officer at Sandwich suggests the propriety of applying the artificial methods of propagation to sustain if possible this declining fish product of that section of the country. The decline of the sturgeon fishery is also being seriously felt and similar means might also be instituted by which this fish might not become too rapidly depleted, as the present appearances would seem to indicate.

13.—OTTAWA HATCHERY, PROVINCE OF ONTARIO.

The work of artificial fish culture in the city of Ottawa was only practically commenced during the past year, by the hatching and distributing of several millions of fish of various species.

This institution was established at the seat of Government with the view of giving more particular insight into the enterprise of propagating fish by artificial means, and exemplifying to the Canadian public visiting Ottawa, the feasibility of this work, as an important factor for stocking lakes, rivers and other waters, with particular kinds of fish, which had either become greatly reduced from their own original source, or in which they were not hitherto known.

This nursery and Fishery Exhibit connected with it, has become an acknowledged educator not only for the general public, but specially for the citizens of Ottawa and the inhabitants of the surrrounding districts, who had not hitherto opportunity of visiting and personally witnessing the practical working of an institution of this kind; the attraction and popularity of which is fully shown by the register book, in which the names of no less than 22,800 persons are recorded as visitors to this hatchery during the first year in which it has been in operation.

The system adopted here is to obtain the requisite supplies of fish eggs in the semi-hatched state, from the Newcastle and Sandwich nurseries. The ova procured are of the species of fish best adapted for the waters in the surrounding counties, and when the fry are hatched out, they are distributed throughout the lakes and streams which may be considered best adapted for them, or where the requests of public bodies, or individuals, may have been made to get them.

The establishment is fitted up on a much less extensive scale than at the other hatcheries, by reason of the space in the lower flat of the fishery exhibition building being somewhat limited. The arrangements are for hatching salmon, trout, speckled trout and whitefish; the appliances for hatching ova are of the latest, and most approved descriptions. There are also a number of aquaria with glass sides in this hatchery put up with the view to exhibit living fish of various kinds and sizes. Thus showing in the establishment the ova with the rudimentary form of the fry inside whilst hatching, and the after growth of the young fish in the aquaria up to certain after stages in its life.

The fish put out of this Ottawa Hatchery during the first year of its operations were as follows :—

Salmon fry, sea salmon	112,000
Salmon trout fry	1,051,000
Speckled trout fry	70,000
Whitefish fry	4,500,000
Total	5,733,000

These were distributed in several lakes and streams in the counties in the Ottawa valley.

There are several improvements and additional fixtures yet to be made in this institution to bring it up to the standard it should occupy as a complete representation of fish cultural work at the seat of Government of Canada.

Arrangements are in progress by which supplies of eggs of various kinds of fish will in due time be transferred from Newcastle and elsewhere to fully stock the Ottawa Hatchery for another season's work.

6.—LOBSTERS.

Special report by Mr. Wilmot.

LOBSTERS AND THEIR ARTIFICIAL PROPAGATION.

Connected with this subject will be found an account of a visit to Newfoundland, with the view to obtain practical knowledge regarding the methods of carrying on artificial lobster hatching by the Government of that country, under the direct management of Adolpe Neilsen, an expert in this work, formerly of Norway.

There will also be found herewith particulars relating to another report on the selection of a site for the erection of an establishment for the artificial breeding of lobsters in Canada.

As the result of these two reports, it may be here mentioned that the views submitted, and the site as selected at Bayview, on the Northumberland Strait, near the harbour of Pictou, in Nova Scotia, having been sanctioned by the Government, all necessary preparations are now being made to enter upon the work of lobster breeding next season, during the months of June, July, or during such periods as may be found most advantageous to carry on the enterprise.

The ground has been purchased and the contracts have been let for the erection of the building and the construction of a pier alongside, as well as the putting in of the requisite machinery. The breeding apparatus is being provided for also, and unless from some unforeseen causes, the whole establishment will be in readiness for actual work by the middle of May next.

In connection with this primary nursery for rearing this valuable crustacean at Bay View, it is also in contemplation to introduce amongst the lobster fishermen and canning companies a description of floating incubator, which has been used in Newfoundland during the past season with the most satisfactory results. This floating incubator is simply and cheaply made, and from the accounts given of it by Mr. Neilsen it can be readily worked in almost any sheltered bay or inlet along the coast by any ordinary intelligent fisherman, or other person who may feel desirous of aiding either in a private or public way in the cultivation of the lobster. Mr. Neilsen, at my request, is about sending on one of these incubators as a sample, from which a number may be constructed, with a view to distributing some of them amongst such fishermen and canners as may be disposed to work them, or to aid in resuscitating the lobster industry, which, from over-fishing, is now making such rapid strides towards depletion. In these reports will also be found matter relating to the lobster family which may be considered of interest as showing the vast amount of destruction going on by the present modes adopted in the killing of immature, undersized and berried lobsters.

DILDO ISLAND FISH HATCHERY, NEWFOUNDLAND.

Official instructions were given to me to proceed to Newfoundland, with the view to obtain information regarding the artificial breeding of lobsters, where this industry has been carried on under the patronage and support of the Government of that colony by Mr. Adolph Neilsen, an expert in the science of artificial fish culture, whose practical application to the subject in Norway had made him prominent there in cod and lobster propagation.

The evidently declining state of the codfish in and around the coasts and bays of Newfoundland induced the Government of that Island to enter upon the work of resuscitating these fisheries by introducing the artificial methods of propagation, which, it appears, had been practised with much success in Norway, and where the breeding of lobsters also had been carried on with satisfactory results ; and hence it was that the services of Mr. Neilsen were obtained to introduce cod and lobster breeding into the waters of Newfoundland.

From the last year's published reports of the Fishery Commission of that Island, it would appear that this work had been most satisfactory, and from the knowledge

already gained in the matter it was confidently expected that many millions of the young of the cod and the lobster families would be turned out of the Trinity Bay hatchery in future years.

To obtain an insight into the working of this industry from an ocular and practical standpoint, and with a view to its utilization in Canada, was the object of my mission to Dildo Island, on Trinity Bay, where the hatchery is erected, a distance of 100 miles from the city of St. Johns.

Leaving Ottawa on the 5th of June, and taking the most direct route, St. Johns, Nfld., was reached on the 11th, thence to Trinity Bay, arriving at Dildo Island on the 12th June, and remaining there till the 16th. During this stay every facility was given me by Mr. Neilsen to inspect, note and watch the operations going on in collecting codfish eggs, and the *modus operandi* of hatching them. Lobster hatching had not yet commenced; extreme cold weather had somewhat delayed the collection of these eggs, but the delivery of some 700 lobsters at a canning factory near by gave me ample evidence of the particulars relating to the methods pursued for obtaing the ova and of placing them on the apparatus used for hatching them.

Full particulars were also taken by me of the class of building, and of the several appliances connected with it; notes were also taken of all matters which might be found useful for the carrying out of a similar work in Canada, and from what I saw and learned it may be confidently concluded that no serious difficulties can arise to prevent the artificial breeding of lobsters to almost any extent, in any of our maritime Provinces, if judicious locations are chosen and proper care given to prosecute the work.

The great object at starting the undertaking should be to select a suitable point, somewhere on the coast, where the sea water will be strongly saline, free from sedimentary matter, and of low temperature, and, if possible, in the immediate vicinity to places where lobsters are numerously taken to supply canning factories, thus affording the necessary means for securing full supplies of eggs, either from the lobster trappers or from the factories, where usually large numbers of these fish are daily brought in for canning purposes.

Such a location being chosen (and there are no doubt, many of them on the long extent of our coasts), the necessary buildings and applicances should be put up, with the view to permanency; and whilst it may not be contemplated to enter upon the work to the fullest extent required at once, nevertheless the buildings, applicances and all surroundings should be calculated upon such a scale as to afford the facilities for turning out annually lobster fry by the hundreds of millions, in order that the artificial propagation may in a certain degree be somewhat in keeping with the natural production. With this combination, to be strongly reinforced annually by enlarged artificial propagation, with rigid enforcement of proper close seasons for natural breeding, and preventing the killing of immature fish, the recuperation and healthy sustentation of the lobster industries of the country would be happily experienced by those engaged in the lobster trade, as well as by the country at large. But with the present reckless and unlimited scale in the destruction of the millions upon millions of fruitful eggs, with the embryo lobsters just ready to drop from the bodies of the parent fish, and the equally wanton and unwise destruction of the young, undersized lobster, comprising, perhaps, one-third of the total of all going into the factories—too young to reproduce their species—must, in a short time, prove fatal, and eventually exterminate the whole lobster industry of Canada.

DESCRIPTION OF THE BUILDINGS AND APPARATUS.

A brief description of the buildings and applicances generally, connected with the cod and lobster hatchery at the Dildo Island establishment, is herewith given:

The main building is a frame and wooden structure, 75 feet long by 45 feet in width, and two stories in height; the lower flat is principally devoted to breeding purposes, the whole of the floor area being taken up with tanks containing salt water, and hatching apparatus of many kinds adapted for cod and lobster hatching. Glass incubators, as are used in Norway and in the United States, are exclu-

sively operated here for hatching the codfish eggs; whilst the apparatus for lobster hatching consists of many contrivances. The certainty as to which of them is best is not yet fully determined by the Newfoundland Superintendent.

The "Wilmot Automatic Glass Incubator," now in general use in Canada and other countries for hatching the eggs of the Coregoni family, had not been applied to the Dildo hatchery. Mr. Neilsen was, however, of the impression that this jar would be well adapted for the lobster eggs, and he expressed a wish to make a trial of them, if possible, the present season. I therefore, on my return through Halifax, instructed the officer in charge of the Bedford hatchery to forward half a dozen of these jars to Mr. Neilsen, who will make full trial of them and acquaint me of the result. I am of opinion the "Wilmot Jar" can be made to answer the purpose well. This opinion is corrobated by Col. MacDonald, Chief of the United States Fish Commissioners, who, in previous correspondence, has informed me that, having used these jars, he found them suitable for hatching the lobster eggs.

A portion of the lower flat is partitioned off from the hatching room for the engine room, boiler, pumping apparatus, &c., which draws the salt water through wooden pipes some 320 feet from 5 fathoms depth of water in the little cove formed by projecting rocky points in Trinity Bay. The sea water, which is very pure and cold, is forced through this pipe into a large tub or reservoir on the second floor of the building, from which it is run off through a series of wooden pipes and taps into numerous small incubating tanks, in which the glass jars containing the eggs are placed. Three of these tanks are placed steplike, one after the other; and the water is syphoned from one into the other, by which means a continuous upward and downward flow of water is kept up through and amongst the eggs in the glass jars during the whole period of hatching the cod eggs.

The motive power to carry on this work consists of a steam boiler of sufficient capacity to work an 8-horse power "Blake Duplex Pump," capable of supplying 200 gallons per minute if required.

The upper flat of the building is divided off into rooms, such as office, bed rooms, dining room and kitchen, &c. All the employés, some ten in number, are lodged and boarded on the premises. The fresh water for the boiler and for domestic purposes is obtained from a small spring well sunk in rear of the house.

Fronting the hatchery, which is within a few feet of the edge of the cove beach, a short pier or wharf is built out a short distance, making a safe shelter and landing place for the steam launch and other crafts connected with the work of the establishment. A part of this pier is so constructed as to form safe pens or reservoirs for keeping parents codfish, which may be brought in and found to be unripe to deliver their eggs at once.

A small steam launch is attached as an indispensable requisite in the working of this establishment for collecting codfish and lobster eggs from the fishing stations and canning factories, which are situate at various points here and there along the shores of Trinity Bay. The launch is also specially advantageous for the distribution of fry throughout Trinity Bay and elsewhere, where their transport is required.

An estimate of the cost of the Dildo hatchery, as furnished by the Superintendent in round figures, viz:—

Cost of building complete	$2,500
Cost of boiler, engine and pump	1,600
Cost of machinery, incubators and other apparatus, including steam launch	3,400
Total	$7,500

Maintenance.

60 tons coal for engine and launch at $4	$240
3 men as engineers—2 in hatchery, 1 in launch—at $1.50 = $135 per month for 6 months	810
3 men in hatchery at $1 = $90 for 6 months	540
4 men collecting fish eggs, at $120 for 6 months	720
1 housekeeper and servant, at $12	72
Total	$2,382

The hatchery is supposed to be run from about 1st May till 1st November.

From the above cost of the Dildo hatchery, the following computation is made as to the probable cost of the construction and maintenance of a lobster hatchery, to be built in any of the maritime Provinces of Canada, thus:—

Say:

Cost of building (a summer one)	$1,500
Boiler, engine and pumps	1,000
Machinery, incubators, apparatus	1,000
Steam launch, &c., &c	1,500
Total	$5,000

NOTE.—The boiler, engine and pump at the Sandwich hatchery cost $770.

Maintenance.

Say:

60 tons coal, engines and launch, at $4	$240
3 men, engineers—2 in hatchery, 1 in launch—at $1.50 per diem = $135 per month, say 3 months	405
4 men, collecting eggs and taking care of them in hatchery, at $1.50 = $6 per diem, or $180 per month, for 3 months	540
Incidentals for engine and launch	315
Total	$1,500

At the Dildo hatchery six months are occupied in collecting and hatching cod and lobster eggs, the codfish taking up an earlier period than lobster. The period given for lobster breeding in Canada would be three months—say, June, July and August—therefore largely reducing the maintenance for an establishment in Canada as compared with cod and lobster breeding at Dildo.

The result of the within described inspection of the Dildo establishment for breeding codfish and lobsters and from experiments made in Norway and other countries in Europe, and also in the United States, is, that lobster breeding by the artificial method is not a difficult undertaking, and its application might be held to be more favourable and attend with better results in the maritime Provinces of Canada than in the countries above mentioned, from the fact that greater facilities are at hand in Canada for procuring the necessary supplies of the parent lobster, by which almost any quantity of their eggs could be secured, thus giving a goodly supply of seed, which, if properly husbanded and the crop well cared for afterwards by judicious legislation, would undoubtedly give to Canada a superiority over all other countries in the commercial traffic connected with the lobsters industry.

SELECTION OF A SITE FOR LOBSTER HATCHERY IN CANADA.

In connection with my inspection and report relative to the Dildo cod and lobster hatchery in Newfoundland, I desire also to report upon the selection of a site made by me for a lobster hatchery near the Cariboo Islands, on the Northumberland Straits, in the Province of Nova Scotia.

After visiting the Dildo establishment in Newfoundland and returning to Halifax I considered it advisable to examine certain points of the shore of the Newfoundland Strait, in the vicinity of Cariboo Islands, where several lobster factories were located and where it had been represented to the Department that these islands near Pictou harbour gave promise of furnishing all the necessary conveniences for the establishment of a lobster hatchery. Leaving Halifax on the 23rd of June, I reached Pictou the same day, and learned that lobster fishing was being largely carried on along that coast, and that within a distance of some 20 miles there were then a dozen or more factories in full operation. Upon further enquiry I found out the names of the proprietors of most of them and their particular location, as follows :—

		Location.
1.	Burnham & Morrell, Bayview factory	Mainland
2.	Hamblin & Sons, Cariboo do	Cariboo Island
3.	do	Tony River
4.	Burnham & Morrell, Cape John	Cape John
5.	do McDonald's Cove	McDonald's Cove
6.	Hogg's factory	Pictou Island
7.	do do	do.
8.	McClures factory	do

These were all situated in front of, and westward of Pictou harbour. There are also several other factories, some distance to the eastward of Pictou. These latter I did not visit, nor did I obtain any particulars regarding them except that, a pretty large amount of canning was done at each of them.

With this number of factories so near at hand, I concluded that an abundant supply of lobster eggs might be readily secured, in the event of a lobster hatchery being located somewhere in their neighbourhood, and where the requisites of shelter and purity of water were at hand, also, for the satisfactory working of such an establishment.

PROSPECTING FOR A SITE FOR THE HATCHERY.

Occasion was therefore taken to closely prospect the coast line from Pictou harbour westward to Cape John, some twenty-five miles, and also the shores of the Cariboo Islands to find, if possible, a convenient site for locating a hatchery. This was satisfactorily accomplished in selecting a well adapted spot, almost immediately alongside the Bayview factory, on the mainland, opposite to Little Cariboo Island—a place almost completely sheltered from any winds or storms which might prevail in the Strait outside.

Here the water is constantly in motion, and highly aerated, from the rapid running of the tides through the narrow passage (which separates Little Cariboo Island from the Mainland) into Cariboo Harbour, which extends westward many miles. This site, so well protected, is shown *in red* on the small tracing of the harbour and islands hereto appended. The conveniences of this spot are certainly most favorable, not only by reason of the sea water regularly flowing through the narrow inlet immediately in front, but also from the depth of water of some 4 and 5 fathoms within 100 feet of the shore, thus requiring only a short length of piping to draw the cold sea water into the building, which could be placed within 100 feet of the Bay, view lobster factory, where certain supplies of eggs could always be depended upon. This site, furthermore, possesses the advantage of being centrally situated for the other factories westward, and for the 3 large factories on Pictou Island, only 6 miles out in the Strait. A hatchery here would, therefore, have no less than 8 large canning establishments to procure eggs from, and not counting the factories which are situated to the eastward of Pictou harbour. Another great advantage would be its closeness to the town of Pictou, only 4 miles distant, where ready means are at hand for procuring building material, and where engine and boiler making is carried on, having easy approach by railway and affording facilities for getting supplies of all kinds. Comprising all these advantages, this proposed site is a most desirable one to commence the enterprise of artificial lobster hatching in Canada.

In conversation with Mr. Neilsen, of the Dildo hatchery, Newfoundland, he was strong in the advocacy of pure, cold, strongly saline water for hatching cod and lobster eggs, and that the hatchery should by all means be as near as possible to lobster factories, to warrant full supplies of eggs; and that it should be in a sheltered place from the winds, so that the action of the storms would not stir up and roil the water, and cause sedimentary matter to be conveyed through the suction pipes into the hatching apparatus to foul the eggs.

A site at Cariboo harbour will possess these requisites and many more which the Dildo hatchery, from its remoteness from the inhabited parts, has not or cannot have. The temperature of the water, however, at Dildo, was 44°, whilst at Cariboo it was 58°; but as some ten days had elapsed between the trials at the two places, and hot weather had intervened, no doubt this difference in temperature would be greatly modified. I do not, however, think this would materially affect the case of hatching, as the natural habitat of the lobster at either places would adapt itself to the surroundings actually required for its propagation. Under all the circumstances, I feel safe in reiterating my former opinion, that the site at Lakeview is well adapted for artificial lobster hatching.

EGGS FOR THE HATCHERY—HOW OBTAINABLE.

Whilst the Lakeview site possesses the many advantages above related, I considered it advisable also to find out particulars regarding how the necessary supplies of eggs could be procured for it, if the hatchery were placed there. The result of this investigation gave evidence that almost unlimited quantities of lobster eggs could be secured from the several canning factories near by if satisfactory arrangements were entered into with the several proprietors owning them. Astonishing results were also brought out as to the wholesale destruction which was going on almost daily with the lobster by the method pursued at the several canning establishments which I visited, and from which I have formed my data for the calculations given below; and although only eight of (no doubt) the most extensive and best managed factories on the coast are included, I have no doubt that each factory throughout the several maritime Provinces is pursuing precisely the same course which, if allowed to continue, must sooner or later exterminate the lobster industry of the country.

To obtain knowledge for myself personally, as well as for your Department (if deemed worthy of consideration), I closely noted matters when visiting some of the lobster factories above named, with the view to learn particulars relating to the industry, and to make myself acquainted with the nature of the lobster, as to its re-productive powers, when mature or immature, its fecundity, and other characteristics of its nature, from which I could form an intelligent and reasonable conclusion regarding the natural and artificial production of them, and of the times and modes by which proper legislation might be framed for the present and future protection and maintenance of the lobster wealth of the country, which is now so rapidly declining.

REMARKS AFTER VISITING THE CANNING FACTORIES.

I found the proprietors and employés in every instance most willing to give me every information, and placing no restriction whatever in the way of preventing me from witnessing their operations, or from handling the lobsters in the various stages which they pass through in the work of being handled cooked and canned for the markets. The information almost volunteered to me by the canners regarding the large daily catch, and pack of lobsters at the individual factories which I visited, as well as those which I could not readily reach, was to me somewhat surprising. It must be understood that, as a general rule, the packer buys the lobster from the trapper by weight, not by count—the price being 50 cents for the 100 lbs., which the trapper gets upon delivery at the pier or landing connected with the factory. The account of the daily receipts given me by the several proprietors was

as follows, which covers the general daily average from the beginning of the season, about the 10th or 12th May, till the close of the season on 15th July :—

Proprietor.	Location.	No. of Lbs. Daily.
1. Morrell & Burnham	Bayview	10,000
2. Hamblin & Sons	Big Cariboo	14,000
3. do	Tony River	10,000
4. Burnham & Morrell	McDonald Cove	12,000
5. do	Cape John	15,000
6. Hogg's factory	Pictou Island	12,000
7. do	do	12,000
8. McClures factory	do	16,000
Total		101,000

These figures were given in round numbers by the proprietors. In one or two instances they were taken from their books.

In order to ascertain the number of lobsters comprised in these 101,000 lbs., it will be necessary to add about one-fourth to cover the great quantity of small sized ones, which are so numerously taken. This, then, would give a daily catch brought to these eight factories of 125,000 lobsters, say from 15th May to 15th July, which, if multiplied by the time, 60 days, would give a total of 7,500,000 taken during this part of the season.

It will now be necessary to make further search into this subject, in order to fully comprehend its destructive bearings upon lobster life and the industry connected with it. To do this properly this daily catch of 125,000 lobsters must be analyzed:

1. What proportion of this number would probably come under the term of "berried lobsters," or those taken contrary to the law? After the 15th or 20th of June large numbers of the lobsters are found heavily laden with almost matured eggs, in many instances ready to drop the embryos from their bodies.

2. What proportion of the 125,000 will be found to come under the legal standard of 9½ inches, and may be called immature, that is, not possessing the requisite functions of nature to enable them to reproduce their species? My observations and examinations of several hundred specimens led me to conclude that a very small proportion indeed under 9 inches are "berried" or able to propagate their young; and that very few, if any, under 8 inches have their organs of development sufficiently matured to enable them to be "berried" or reproduce their kind.

Now, taking these views regarding "berried" and "undersized or immature" lobsters to be correct in the main, or even approximately so, the following figures will assuredly show the immense destruction that is continually taking place throughout the whole country illegally, and otherwise, in connection with the lobster business:

Thus, in this case, say the daily catch to be		125,000
Deduct ¼ immature and undersize is		31,250
Balance to be called full size		93,750
One-half of these may be called females		46,875
Take off ¼ as unfit for breeding		11,718
Leaving of females		35,157
Scientists give an average of *20,000 each female		20,000
Total eggs from females		703,140,000

* The writer has since learned from Prof. Neilson that 20,000 is below the average.

This 703,140,000 would be the daily loss of lobster eggs occasioned by the taking of "berried females" contrary to law, if it went on during the whole season of two months. But it must be borne in mind that whilst the whole season covers two months, the real time in which the "berried female" is principally taken commences about the latter half of the season, say 15th or 20th June, and continues till 15th July.

Now, if the daily products of fruit-bearing eggs is 703,140,000, and the actual time in which they are largely found on the female is from 20th June to 15th July in the open fishing season, 25 days are actually employed by the fishermen in catching "berried" or illegal lobsters—(to say that all "berried" fish are put back into the sea, and that they are not used in the factories, would be simply a distortion of the truth).

The product of this loss at these eight factories alone would be the multiplication of 703,140,000 by 25 days, giving a total of upwards of *seventeen billions five hundred and seventy-eight millions* (17,578,500,000) of lobster eggs and fry, which the present Departmental regulation contemplates saving by not permitting "berried" females to be taken. Yet the regulation is not enforced by the officers; it is violated, and is bringing about speedy extermination of the lobster industry.

It is by such an application of the subject, and by such calculations in relation to it that the immense loss can be comprehended that is now going on in connection with the lobster business of the country; and when it is found that so much destruction is caused by the operations of the within-mentioned eight factories on a part only of the Strait of Northumberland, what must it be with all the other canneries, some 500 in number, along the whole extent of the coasts of the maritime Provinces, where, no doubt, the same ruinous course is being pursued at each of them. The result must soon be to utterly destroy the industry and exterminate the lobster from our shores, and this calamity is already being too truly experienced on many parts of the coast.

From the within related facts, it is fairly shown that in connection with the carrying on of eight lobster factories no less than an average of 1,875,000 immature, undersized lobsters are illegally killed during the two months, and at the lowest calculation some 17,578,500,000 matured lobster eggs, with embryos in them, are cast into the boiling vats of the canneries, all in violation of the law, too. It, therefore, becomes necessary that this wanton destruction of these valuable crustaceans should be stayed, before it is too late to prevent their final extermination.

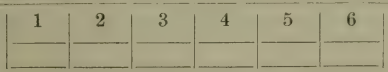
To give some particulars in proof of the statement that lobsters under 9 or 8½ inches are immature and incapable of reproducing their species, I may state that I opened many of these undersized lobsters at three of the factories, and found no rudimentary signs of fecundity inside or outside of their bodies; while in the larger-sized lobster, eggs were invariably found either inside the body or on the swimmerets, under the tail outside. This circumstance convinced me of the wisdom of the regulation which establishes the legal length at 9½ inches (which, in reality, should be 10½ or 11 inches). It also impressed upon me the great necessity that existed for your Department in enforcing the 9½-inch regulation to the very letter, and preventing the vast number of undersized, immature fish from being caught in the traps, and daily canned in the factories.

As further evidence of the unfertility of lobsters under 8½ inches, I requested the general agent of one of the large packing companies to send me a box that would hold about 50 lobsters of different sizes under 9 inches, to be forwarded to Ottawa, C.O.D., with the view that I might more closely examine them, to discover whether they bore eggs within or outside their bodies. These were very promptly and kindly sent on, as requested. They were boiled before leaving the factory, in order that they would arrive in Ottawa in good condition. Nearly all of them did. I opened all these lobsters personally, and thoroughly examined them, with the result as shown in the notes taken of each and described in the paper herewith attached. The examination of some of these lobsters was witnessed by other persons also. Some whole specimens and parts of others were put in alcohol for obser-

vation in the Museum. It was found in these specimens that no perceptible signs of fertility were to be discovered in any of the lobsters under $8\frac{1}{2}$ inches in length. On one or two samples that measured plump $8\frac{1}{2}$ inches some eggs were found on the outside of the body.

The following are the particulars relating to an examination made with the lot of lobsters received from the Bayview factory, Cariboo Islands, N.S.:—

No. of Lobsters.	Length of Lobsters.	Square of Body.	Remarks.
	Inches.	Inches.	
4	$6\frac{1}{2}$	$1\frac{1}{4}$ / $1\frac{1}{4}$	No evidence whatever of eggs inside or outside.
3	7	$1\frac{3}{8}$ / $1\frac{3}{8}$	do do
6	$7\frac{1}{2}$	$1\frac{1}{2}$ / $1\frac{3}{4}$	do do
9	8	$1\frac{3}{4}$ / 2	do do
2	$8\frac{1}{2}$	$1\frac{7}{8}$ / $2\frac{1}{16}$	do do
*6	$8\frac{1}{2}$	$1\frac{15}{16}$ / $2\frac{1}{8}$	"Berried" eggs outside on some of them.
8	9	2 / $2\frac{1}{16}$	Two berried; rest apparently males. No eggs.



Scale of 6 inches.

*It must be considered somewhat exceptional to find any considerable number of $8\frac{1}{2}$ inch lobsters bearing eggs—or, at least, such was the result of a pretty general examination made of a large number of lobsters received at the canning factories

referred to. It is possible, however, that in closely overhauling many thousand a few "berried" 8½-inch lobsters might be found, and this may have been the case with those sent to Ottawa for examination.

Since the above described examinations were made I have received information from Prof. Adolphe Neilsen, the Norwegian expert in lobster and cod hatching now employed by the Newfoundland Government to manage this industry, and who has been so eminently successful in hatching and turning out upwards of four hundred millions of young lobsters during the past season in the Newfoundland waters by the artificial methods. He thus writes: "As it may be of use to you, I will give you the number of eggs I have found on the lobsters here in Newfoundland, after the most careful count. Thus:—

A 11-inch	lobster	carries	22,154	eggs.
11½	do	do	22,600	do
12	do	do	23,080	do
12¼	do	do	23,260	do
12½	do	do	23,680	do
13	do	do	24,100	do
14	do	do	25,000	do

The inference to be drawn from Mr. Neilson's practical knowledge of the lobster family is, that he cannot, or that he does not obtain matured eggs from lobsters under 11 inches. It may be possible that some eggs may be got from lobsters under that size, but he does not consider it worthy of mention in his correspondence. He furthermore says: "'Berried' lobsters were seldom found under 8 inches, and more frequently over than under 10 inches."

In my examination of the lobsters their size was considered, and close measurements made as illustrated in the above sketch. From the squares shown of the body size of the several lobsters examined a somewhat proper conclusion may be drawn for regulating the width between the bars or slats of the lobster traps, so that in adopting any regulations regarding legal lobster traps a space shall be left sufficiently wide to allow small-sized lobsters to pass through, and thus prevent the unlimited killing of under-sized and immature fish.

CONCLUSION.

If in the work of nature it was ordained that this wonderful fecundity of the lobster family was requisite to keep up the balance of nature in the general line of marine animals; and if in the wisdom of the Legislature of this country judicious laws have been enacted intended to protect and reasonably sustain this balance of nature, yet give a fair and legitimate supply of this much desired crustacean for man's use and traffic, why should the laws of nature and of the country be allowed to be overridden, and be made of no effect, to gratify the selfish desires of a few persons, for their own immediate aggrandisement, and who also advance special pleas and give erroneous statements regarding the nature and habits of the lobster, with the view simply to obtain more extended privileges for carrying on the work of ruination to the lobster industries of the country?

Surely the sad experience which other countries have already realized by allowing the unrestricted killing of this valuable crustacean should give timely warning to Canada, and cause her to put forth her energies to preserve and maintain in her waters the lobster wealth which she now so largely possesses over almost any other country.

The remedy and means are already to hand, which, if strictly enforced, would yet preserve the lobster industry, and maintain it in a large degree, both for the present and the future:

By a determined enforcement of a properly selected close time;

By the absolute prevention of the killing of under-sized and immature lobsters;

By placing all lobster trappers and packers under license surveillance, with such regulations as will effectually stop the present wicked and destructive methods

carried on in connection with the lobster business, and by supplementing their natural production by entering upon an extensive plan of artificial propagation.

If these means were enforced by parliamentary enactements, and not by Orders in Council, the present constant importuning of the Department would be prevented by interested individuals, companies and representatives from localities, all of whom are constantly pressing for changes to be made in the close season and regulations regarding lobsters from their own local and selfish standpoints, irrespective of the general requirements of the public at large for the preservation and maintenance of the lobster wealth of the country.

Appended hereto will be found a plan of that portion of the Strait where the site for a hatchery has been selected, on which are also shown the locations of the presnt lobster factories which are within reasonable limits for securing supplies of lobster eggs for the contemplated hatchery. The names of the proprietors of the factories, with the daily catch of lobsters at each, are also shown.

IRREGULARITIES CONNECTED WITH THE CANADIAN LOBSTER TRADE.

There is an unjust and discriminating system allowed to be carried on in favour of the foreign packer as against the Canadian packer and the trade interests of the Dominion.

Some of the lobster packing companies carrying on the canning business in the Maritime Provinces are only temporary residents, being actual residents and citizens of the United States, where they also carry on the lobster-packing business quite extensively. These American companies have been in existence in various parts of the United States for many years, and have established themselves in the lobster industry under well-known "trade marks," represented by brilliantly-got-up labels affixed to each package put up by them, thus conspicuously advertising their goods, and the country in which they are produced, to the general consumer throughout almost every part of the globe where this edible crustacean is eaten.

Finding by over-fishing, and the destructive methods adopted in killing the lobster, which has been permitted by the authorities in the United States, the lobster crop has almost come to an end, these companies have, therefore, in many cases established themselves in the lobster packing business at many important points all along the coasts of the Provinces of Nova Scotia, New Brunswick and Prince Edward Island, where they have found the lobster crop to be far more abundant than in their own country. There they carry on an evidently Canadian industry from the product of Canadian waters, this might not be considered of such an objectionable character if deception, or, in fact, fraud, were not practised, by misrepresenting this actual lobster wealth of the Canadian waters, by advertising it to the world by their "trade marks" and labels as the product of the waters of the United States.

But a still more iniquitous system is also practised, when all the superior qualities of the lobster packages are labelled as the product of American waters, and the inferior qualities are labelled as the product of Canadian waters, whilst all are canned in the same factory and all are caught in Canadian waters.

This evidently irregular and discriminating proceeding in favour of the American lobster packers carrying on the canning business in Canada should be stopped, as being not only injurious to the resident Canadian packer, but also damaging to the commercial interest of the Dominion, in allowing a fraudulent advertisement of an extensive article of trade to go forth to the world at large as the growth and product of the United States, when in reality it is wholly Canadian. I hereto append to my report the following extracts regarding lobster culture in Newfoundland and in the United States.

SUCCESSFUL OPERATIONS IN LOBSTER AND COD HATCHERY, NEWFOUNDLAND.

Mr. Neilsen's Report.

At a meeting of the Executive Committee of the Fisheries Commission on the 24th instant, Mr. Neilsen presented his report on lobster hatching for the present season. From this it appeared that at Dildo hatchery, fifteen millions of lobsters had been hatched and planted. Returns received from nine of the

hatching stations showed that three hundred and sixty-five millions of lobsters had been hatched and set free in the waters. These stations were distributed around Fortune, Placentia, Conception, Trinity and Bonavista Bays. At each station thirty-six floating incubators were employed. The eggs were obtained at the different lobster factories, and would otherwise have been destroyed. The female lobster, as is well known, carries her eggs in a fertilized state under her tail. Before the lobsters are thrown into the boilers these eggs are carefully removed by the men in charge of the incubators and brought to life; and the young have the same chance of surviving as if produced by the natural process and liberated in the waters. There is thus a clear gain of what would otherwise have been devoted to destruction.

Three stations in Green Bay, each having thirty-six incubators, are yet to be heard from. Should they have been as successful as the others it will be found that they have hatched 116,000,000. The result of the whole, in that case, would be, this season, that 480,000,000 of young lobsters have been hatched and planted in the waters of our bays, to sustain this great and valuable fishery. Who will deny after this that the Fisheries Commission is doing a good work?

This is not all. The fishermen around Dildo and in the various arms of Trinity Bay report having seen lately enormous numbers of tom-cods of a much smaller size than they had ever seen before—in fact, not so much as half the usual size. The reports come from various quarters and from a considerable number of fishermen. Mr. Neilsen has verified the reports, and seen the young cod himself, which he considers are beyond doubt the product of his hatchery, the young cod fry which he planted in the early part of the summer having reached this stage of growth. They are present in enormous numbers. This news is of the highest importance, as it gives abundant promise of success in the present effort to re-stock our exhausted waters. It corroborates the experience of the American Fisheries Commission, who have succeeded, in three years, in creating an abundance of codfish, off a portion of the coast of Massachusetts, where till recently there were none, by artificial propagation. Cod-hatching is now proved to be a great success.

COD AND LOBSTER HATCHING.

(*From Cape Anne "Advertiser," U. S.*)

The fish hatchery on Ten Pound Island is in full tide of successful operation, all but three or four boxes being full. Some seven millions baby cod have recently been liberated, and there are now twenty-six million eggs in the boxes. The Commission's agents go out in shore boats to secure fresh eggs, pressing the spawn and milt from whatever ripe fish are taken, and keeping it in proper condition until they come in. Any immediate overplus of spawn will probably be taken to Wood's Holl.

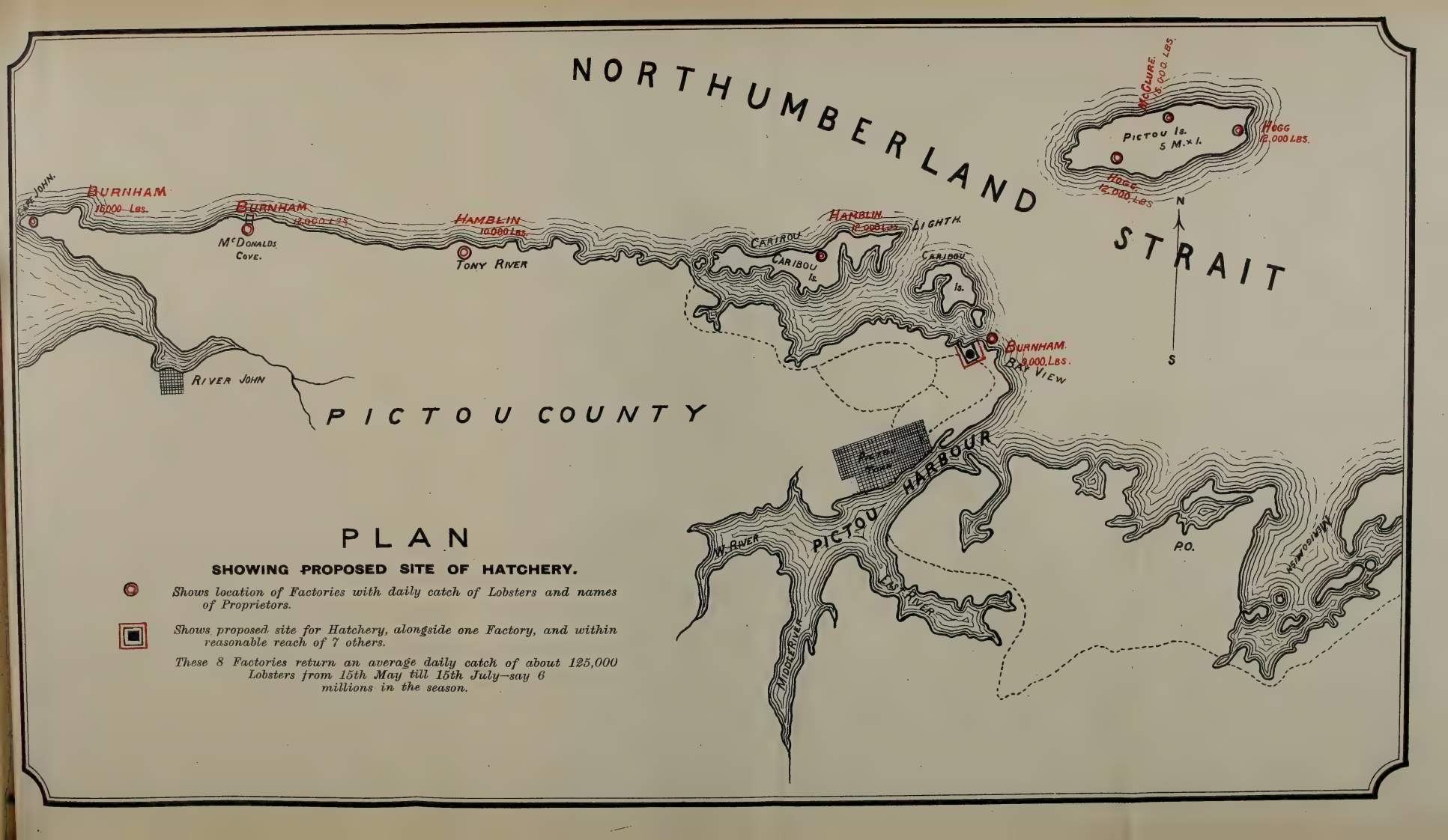
The hatching of codfish, haddock, &c., first attempted in this country at Gloucester, during the visit of the U. S. Fish Commission here in the summer of 1878, has passed beyond the experimental stage to that of demonstrated success. Large quantities of codfish have been hatched at Gloucester and Wood's Holl, and the benefit has already been seen in the fishing grounds off Cape Ann and at Nantucket Shoals. Last summer and fall many young codfish were taken in the traps and weirs, and the school of fish now being caught off shore are of a size and character to indicate that they are the result of this artificial hatchery.

The restocking of the shore grounds is proving a bonanza to the local fishermen. It is reported that the schooner "Dixie," up to Saturday, had stocked $3,000 in seven weeks, her crew sharing $344. Schooner "Lottie S. Haskins" took 4,000 lbs. on her first set in Ipswich Bay. The little sloop "Messenger" stocked $40 the first day's fishing; and the schooner "William H. Cross," with improvised lines, recently took 5,000 lbs. in one day's hand-line fishing in Ipswich Bay.

The artificial propagation of deep-sea fish has been carried on successfully in Norway for some years, and a hatching station has recently been established at Dildo, Newfoundland, under the charge of a Norwegian expert, where excellent success has been met with in hatching codfish and lobsters, especially the latter.

In the summer of 1885 an interesting experiment was conducted at the Norwegian hatchery at Flodevig by Carl Rognenid, Commissioner. A basin filled with sea water was provided, about 140 x 66 feet, and 16 feet in depth, having a capacity of about 88,000 cubic feet. In this several kinds of sea-plants were placed, and on the 3rd of May half a million young cod, hatched a week previously, were placed in the tank. The fish at this time were one-fifth of an inch in length.

Their increase in size was carefully marked from week to week, the greatest growth being obtained between 6th June, when they were within a minute fraction of four-fifths of an inch in length, and they began to eat the food furnished them twice a day, and 12th July, when they were 2·17 inches in length; 12th August their length was 2·76; 12th September it was 3·35 and 12th October it was 4·53 inches. These figures give the average length of the fish taken for measurement, the largest one examined at the latter date being 6·18 inches long.


NORTHUMBERLAND STRAIT
PICTOU COUNTY
PICTOU HARBOUR
PLAN
SHOWING PROPOSED SITE OF HATCHERY.
Shows location of Factories with daily catch of Lobsters and names of Proprietors.
Shows proposed site for Hatchery, alongside one Factory, and within reasonable reach of 7 others.
These 8 Factories return an average daily catch of about 125,000 Lobsters from 15th May till 15th July—say 6 millions in the season.
ST. JOHN.
BURNHAM 15,000 Lbs.
BURNHAM 12,000 LBS.
McDONALDS COVE.
HAMBLIN 10,000 Lbs.
TONY RIVER
CARIBOU
CARIBOU Is.
HAMBLIN 12,000 LBS.
LIGHTH.
CARIBOU Is.
BURNHAM 8,000 LBS. BAY VIEW
RIVER JOHN
McCLURE 15,000 LBS.
PICTOU Is. 5 M. x I.
HOGG 12,000 LBS.
HOGG 12,000 LBS
N
S
W. RIVER
MIDDLE RIVER
EAST RIVER
P.O.
HEADQUARTERS

7.—SALMON FISHERIES OF THE BAY DES CHALEURS.

MEMORANDUM submitted to the Honourable the Minister of Marine and Fisheries by Mr. Wilmot, Superintendent of Fish Culture, regarding the correspondence of certain prominent persons, and the Petition of the Fishermen of the County of Bonaventure, relative to the Salmon Fisheries of the Bay des Chaleurs, together with remarks on the Salmon Fisheries generally and their modes of capture, with the several kinds of nets now employed; also sketches of the various descriptions of Pound, Trap and Stake Nets in use in many of the Coast and Estuary fisheries in the Dominion.

The complaints of the petitions on the Quebec side of the Bay des Chaleurs are:—

(1.) That their compliance with the Sunday close time is injurious to them by reason of the fishermen on the New Brunswick side of the bay being allowed to fish unmolested through this close time.

(2.) That the annual open period for netting salmon is too short, and should be enlarged.

(3.) Because they are compelled to lift and tie up their nets from Saturday night till Monday morning, whilst the New Brunswick fishermen are permitted to keep their nets down and to fish them at this time.

(4.) That the decrease of the salmon fishery by nets is brought about by the abuse of fly fishing up the river.

These complaints were referred to Inspecting Officer Wakeham, of that division, who reported adversely to these petitioners' views, and Mr. Wilmot fully endorses that report, and now in addition enters more largely into the general subject of the salmon fisheries of the Bay des Chaleurs by saying that:—

(1.) The complaint of the petitioners that, "their compliance with the Sunday close time is injurious to them," is no doubt correct, when they see their brother fishermen on the opposite side of the bay are permitted to fish during this close time, and in violation of the regulation forbidding it. To obviate a continuance of this complaint by the Quebec fishermen they should either be allowed to fish during the weekly close time, or that your Department should enforce it against all, indiscriminately, by strictly enforcing the weekly close time against all fishermen alike. But to allow the weekly close-time to be wholly set aside would mean absolute ruination to the salmon fisheries of the Bay des Chaleurs and its tributary streams within a sooner or later period of time.

(2.) The request of the petitioners for a change in the regulations for lengthening the annual fishery season, is simply to obtain for themselves more extended facilities for capturing more fish, whilst it would also add very greatly towards bringing about the destruction of Salmon fisheries by giving additional help to the ruinous effects from the non-observance of the weekly close time.

(3.) With regard to the complaint "of nets being injured from tying up for the Sunday close time,"—this is but an excuse to gain a point. This was never thought of in former years, when all fishermen tied up their nets alike, but since the introduction of the trap-net, which is somewhat more difficult to tie up, a pretext is made by the Quebec fishermen that keeping the Sunday close time so injures their nets that they should be allowed the same privilege as the one usurped by the New Brunswick netters, who, in violation of the law, keep their nets down during the weekly close time. The not only absurd, but selfish statement made, that "the salmon which escape the nets by keeping the Sunday close time are caught further up on Monday," goes to show the true inwardness of these lower netters, who, in fact, say: "We want all the salmon, you upper netters and river fishermen shan't have any if we can help it." Not only do they have the first chances of taking the incoming salmon, but so avaricious are they that they petition for a privilege which means, "no salmon shall pass us to benefit our brother fishermen above, nor reach the spawning grounds to the river for breeding purposes."

(4.) The petitioners allude to the "decrease of salmon being brought about by the abuse of the right of fly-fishing in the Restigouche River." Captain Wakeham meets this fallacious statement pretty clearly; but to his statements should be added others bearing more conclusively, in contradiction of prejudiced ideas entertained by these netters in the tidal waters, whose dependence upon maintaining their catch of salmon for the future rests largely upon the protection given to the rivers by the fly fishermen. The net fisherman, from the nature of his calling, is in no way whatever the protector; he is the destroyer of the salmon. The ambition and calling of the tidal fisherman is to invent and apply the most destructive engines possible, for intercepting, capturing and killing the incoming runs of salmon on their migrations from the sea, on the coast line, to their native rivers, to produce their young; and if it were not for restrictive regulations as to times and modes of fishing, these netters would so bar the passage of salmon to their rivers, by extending their nets out in the bay, and across the estuaries of rivers, as to wholly forbid the possibility of sufficient numbers reaching the spawning grounds to keep up their species. The whole legislation in Canada, in Britain, and throughout the whole world, so to speak, has been to make laws to keep within bounds the avarice of the net fisherman from exterminating these migratory fish, whose nature it is to travel together in "runs" or "schools" within certain short periods of the year to their spawning grounds. In England and in Scotland, after centuries of experience, the netter has been so restricted in the use of the destructive engines which were formerly in use there that at the present time many of the more important rivers continue to uphold almost their original standard of fish,—thus actually benefiting the tidal fishermen, the rivers proprietors, and all concerned.

The policy has been that, while the netter is allowed to take a fair proportion of the salmon for commercial purposes sufficient numbers should by allowed to pass by to benefit the upper proprietors of rivers for angling, and yet leave a sufficient supply of parent fish to breed, and keep up the standard of the river. This has all been achieved by establishing a proper annual close time, and a weekly close time for tidal fisheries, and the use of such description of nets as shall not be too destructive in their operations, and the fixing, also, of a proper close time in rivers to regulate angling. This course has also been adopted for the preservation of the salmon fisheries in the Baie des Chaleurs and its rivers; but the regulations, by reason of expediency and the inefficiency of fishery overseers, have been permitted to be so encroached upon as to become almost useless, and also brought about the outcry so frequently advanced (whether correct or not) that the salmon fisheries are being rapidly exhausted.

It must also be borne in mind that the tidal salmon fisherman is destructive, not protective in his calling, as before stated. He renders no support whatever, pecuniary or otherwise, for guardianship of the rivers and other nurseries which produce for him the supplies of salmon which come to his nets to enrich him. It is the upper proprietors of the rivers, and the anglers who lease them at high rentals, who bear the whole burden of guarding the rivers against the invasion of the poachers, and who are compelled to protect the parent salmon and the spawning beds. The result of which is, that the netter gets the lion's share—and what is this share? If the record of the anglers' catch of salmon on the Restigouche River and its tributaries is taken and placed in comparison with the catch of the netters below in the estuary and coast it will show that, whilst the netter gets some 95 or 96 per cent. of the salmon caught on their migration to their spawning grounds, the angler takes but 4 or 5 per cent. It will be quite whithin bounds when it is said that the cost of every salmon to the ordinary angler will amount to $1 per lb., whilst the cost per lb. to the netter will not exceed 1½ cents per lb.

In fact, by an illustration herewith given from the best known records of the catches of the netters and anglers, this widely comparative difference will be shown. It will be necessary to take the only now present available data for this exhibit from the departmental chart of the Baie des Chaleurs salmon fisheries, referred to in the calculations made relative to this whole subject. By this map the

netter will be placed in a better position than the angler, from the fact that not more than one-half the salmon were then taken with the fly, as of later years; but the gross average of the fly catch of the later years will be placed in comparison with the netter's catch. And this exhibit will only show the operations of the netters on the New Brunswick side of the bay, and of the angler on the Restigouche River, it being correctly held that the Restigouche River is the principal breeding river to supply the tidal fisheries on the New Brunswick side. The records, which do not fairly give the netters' full catch, show that on the New Brunswick side, in the counties of Restigouche and Gloucester, there were taken by nets all told 801,555 lbs. of salmon. Allow for the weight of each salmon 20 lbs., and 40,076 will be the number. There are 179 stations for netters, thus giving 224 salmon on an average to each netter.

These salmon will be estimated at $2 apiece; each netter would thus get $448.

To offset this, the cost must be considered with his average rate of license fee added. There were 29,137 fathoms of net recorded, which, at 3c. per fathom, would give $874.11. This sum divided by 179 netters would give the average fee to each of $4.88. Then, say two months fishing nets at $50, $100. Without first costs of nets the expenditure would be $104.88. Deduct this cost of expenditure from the $448, and the balance to profit is $344. Each fish of 20 lbs. will cost the netter about 46½c., or 2⅓ cts. per lb., and he realizes a profit per fish of $1.53½, or, on his whole average catch for the season, a profit of $344.

The position of the angler is thus: Say a fair average number of days for his fishing to be 20, and the cost per diem for Indians, canoes, tents, scowing, provisions and accommodation cannot be estimated at less than $10 per diem.

The 20 days, angling would amount to.....	$200 00
His privilege or license to fish for the season on any of the Restigouche waters will not be less than.....	200 00
Average railway fare to and from his residence in New York, Ontario or other parts.....	50 00
Total.....	450 00

The angler's catch may be *nil*, but to give a fair allowance, say one fish a day, or 20 salmon for his 20 days, as shown above, will cost him each $22.50. He gets nothing for his salmon, as they are invariably consumed or given away; he therefore makes no profit whatever on his catch, like the netter, but expends $22.50 on each fish taken, or $1.12½ per lb., all of which is spent amongst the settlers and others for provisions, labour, &c.

The cost of the original outfit of the netter and the angler is about thus: Ordinary price of net, $100; ordinary outfit for angler not less than $150, and in many instances reaching double and quadruple this sum.

Now, taking an extra catch of salmon by anglers on the Restigouche, and it has never exceeded 2,000 fish, but in a great majority of cases very much less, and place the results by a comparison between the outlay or cost of 2,000 salmon as between anglers and netters thus:—

Cost of capturing 2,000 salmon by anglers, at $22.50....	$45,000 00
do 2,000 do netters, at 46½ cts.	930 00
Leaving a surplus spent by the angler of.....	$44,070 00

In addition, the angling proprietor or lessee of angling privileges will have to pay his quota of the cost of guarding the river, for which the tidal fishermen pays nothing whatever on this score.

The undersigned feeling quite assured of the deep interest which many prominent individuals and the public also now take, and have always taken in endeavouring to uphold the salmon fisheries of the Baie des Chaleurs, and of the several rivers which

empty into it, considers that any suggestions coming as they have from persons having a practical knowledge and long experience on this subject should receive from your Department of Fisheries due consideration.

Frequent reference is made to the want of uniformity and inability to obtain correct returns. This is, no doubt, the case, as it is well known by those practically acquainted with the fisheries on the Baie des Chaleurs that the returns made to the Department are imperfect, and do not give anything like a true and correct account of the numbers of salmon annually taken in the nets operated in the estuaries of the several rivers and along the shores of the bay. These imperfect returns are caused by the desire on the part of the fishermen to withhold the true catch made by them, fearing that it might affect their interests with regard to the value to be put upon their licenses in after years. This no doubt would be the natural feeling of the fishermen; and to carry this out the overseers are often hoodwinked by the fishermen, and consequently these overseers simply take the *ipse dixit* of the fishermen, without taking further interest, as they should, by frequent examinations of the nets, and seeing the fish actually taken from time to time. This would require a live active men whose sole duty should be to daily inspect these salmon stations during the short time of ten or twelve weeks when the fishery is carried on in its fullest extent. A personal knowledge of this matter, when inspecting portions of the bay, in connection with the specialty of fish breeding, has given evidence of the prevalence of this want of thorough oversight of the large salmon fisheries in the neighbourhood of Dalhousie, and elsewhere.

Attention is also drawn to the present unfairness and want of discrimination which exists regarding the location of fishing stations, the length of nets, and the rate of license fees paid. This must appear obvious to even the commonest observer from a glance at the fishery stations on the departmental plans of 1878 (and it is more apparent at the present time), which shows the location and length of every net set, and their catch, and it will so elucidate the whole matter as to carry conviction with it, as to this inequality of the existing mode of licensing the salmon stations, especially in the bay below Dalhousie, on the New Brunswick side. To explain :—

The license fee on the New Brunswick side is 3 cents per fathom of net. Now take as an example the multitude of nets set in Eel Bay at Dalhousie, and commence at station No. 71 where the first net is placed for intercepting the shore wise course of salmon, after passing Heron Island, in their migration from the sea coast, and follow from No. 71, round the curves of this bay to station No. 43, and you find every available space allowed by law taken up with 27 nets, entered at 200 fathoms each. (Query—With this want of proper inspection, are these nets kept within correct limits or lengths ?) and the present unfairness, and want of discrimination of a license fee of 3 cents per fathom are most apparent:

		Lbs.
No. 71 shows the catch at		4,000
70	do	4,724
69	do	1,800
68	do	3,290
67	do	1,197
66	do	3,000
65	do	3,000
64	do	3,100
63	do	3,436
62	do	2,544
61	do	3,000
60	do	5,500
59	do	3,998
58	do	3,000
57	do	3,511
56	do	4,135

		Lbs.
No. 54 shows the catch at		
53	do	31,000
52	do	
51	do	10,500
50	do	8,659
49	do	6,291
48	do	6,229
47	do	9,000
46	do	22,000
45	do	
44	do	17,000
43	do	1,142
		164,05

Here it will be seen that one net, No. 44, took 520 per cent. more fish than the 16 nets each,—71 to 56—did, and yet each paid the same fee, viz., $6.

Now, if the same system existed on the New Brunswick side as on the Quebec side of the bay, viz., 40 cents for every 200 lbs. of the catch, the average fee payable by the 16 nets referred to would have been $6.40 each, and No. 44, at the same rate (with 17,000 lbs.) would have been $34. This, I should say, was conclusive evidence of the unfairness of the present system—unfair towards the fishermen themselves on the New Brunswick side, and more so towards the fishermen on the Quebec side. Taking the aggregate catch of these 27 nets of 200 fathoms each as operated on the limits of Eel Bay, on the New Brunswick side, the gross amount of fees paid by them to your Department was $174; whereas, if these same nets had fished on the Quebec side the amount of fees payable by them would amount to $328.

With regard to this evident unfairness and want of discrimination with fishing stations and license fees, it may be asked how it is that certain nets, or that one net, can possibly take such greater numbers of salmon when located almost (so to speak) alongside so many other nets in Eel Bay? It is somewhat easy to explain, when the migratory habit of the salmon is known, and their instinctive nature for following the coast line until they reach their native rivers, which they ascend for spawning purposes. The larger proportion of salmon belonging to the Restigouche River would naturally strike Eel Bay, on their direct line from their seaward journey, passing by Heron Island. This bay being the first coast line struck by them, as the numerous nets set there would indicate, they commence their coast, or shore, course onward. Nos. 70 and 71 nets show the larger catch of these fish at the lower end of the bay. The fish being driven outward somewhat by these first nets, they pass along with a somewhat uniform catch, till a smaller bay, at the mouth of Eel River, is reached, when they instinctively turn inshore again, striking nets Nos. 51, 52, 53, 54, where the catch runs up from an average in the 17 nets below of some 3,000 lbs. to 41,000 lbs. (in these 4 nets), or an average of over 10,000 lbs. each. From this point they pass on with the accumulations of others coming in direct from their seaward line, giving an increased catch in the six nets above (Nos. 50, 49, 48, 47, 46 and 45) of nearly three times the catch of the 17 first-mentioned nets below, or 8,700 lbs., as compared with 3,000 lbs. each. From this point the salmon strike directly outward to get round the point at the head of the bay, when net No. 44 takes 17,000 lbs., and the next, No. 43, takes only 1,140 lbs.

Thus, it appears that the nets located at either end of this Eel Bay, although using the same number of fathoms as all others, get certainly the lion's share of the salmon and pay no more license fee. This appears very unequal and unfair, and these nets, or the owners of them, at these naturally better-located stations, have no greater legal right to the fishery than their neighbours; custom and occupation has, it appears, made these occupants of the better stations think they can hold them as of their exclusive right. Riparian rights do not prevail in the tidal waters,

and consequently their occupation of the fishery is only permissive from the Government, which they acknowledge by paying the annual license fee for fishing these stations. Then why should one man, merely by the peculiarity of his fishing station, be compelled to pay $6 as a license fee for catching 3,000 lbs. of salmon, whilst another, with the same length of net, and paying the same fee of $6, takes 17,000 lbs. of salmon? The remedy lies in the necessity that exists for abolishing the small fee of 3 cents per fathom, and placing a uniform charge of a certain amount upon every fish, or 100 lbs. of fish, taken by each net. In this way the taxation would be not only justly applied, but equitably proportioned amongst all the fishermen, whether his station were a good or a bad one, or his net long or short.

In connection with this subject of license fees, the following views are suggested for your consideration, which, if carried out, would no doubt in the end benefit the fishermen themselves, in more fairly equalizing the profits accruing from their somewhat laborious calling, and the expenditure connected with their individual fishing stations, and also produce an income to the Department from the catch of fish to sufficiently pay a live overseer, whose time should be wholly devoted to seeing that the fisheries regulations were thoroughly enforced, and thus establish faith in the minds of the public of the determination of your Department to maintain for the present time, and for the future, the salmon wealth so largely obtainable from the waters of the Baie des Chaleurs, and the rivers tributary to it.

Taking the same data for figures and quantities of salmon referred to previously, and confining these remarks to the same 27 salmon stations at Eel Bay, which, whilst it may be only a section of Baie des Chaleurs, will nevertheless be a proper criterion to draw a correct conclusion for operating all the fisheries in that large salmon-producing area (the Baie des Chaleurs)—and even elsewhere and in other Provinces. These 27 nets gave a return of 164,056 lbs. At present the netters on the Quebec side pay 40 cents per 200 lbs.—this, after all, is a very trifling fee, and is not found fault with. I would suggest a uniform fee of 50 cents on every 200 lbs. of salmon—$\frac{1}{4}$ cent per lb. of fish. At this rate the 27 nets with their 164,000 lbs. of salmon would give an income from the license fund of $410. This income, trivial as it is, from this large catch of salmon (and so considered by the fishermen themselves, if equitably exacted from them) is derived from only 27 stands of nets, out of 230 stations in Baie des Chaleurs, and taking in only 7 miles, out of 156 miles of the shores of that bay, as laid down in the fishing chart, describing salmon stations. From every standpoint a license fee based upon the quantity of fish taken is preferable, and more equitable in the interests of all parties concerned.

(3.) Reference is also made to the "necessity for enforcing the law regarding Sunday close time for nets." This regulation is of such vital importance for the better maintenance of the salmon fisheries on the tidal waters, by allowing certain portions of the "runs of salmon" to pass up to their native rivers unmolested from Saturday night at 6 o'clock till Monday morning at 6 o'clock, that it should be strictly enforced in the Baie des Chaleurs and elsewhere, in all tidal waters where salmon fisheries are carried on. It is a law which has existed upon the statute books of Canada since Confederation, and of the several Provinces previous to that time; and has always been held to be, not only in Canada, but in the countries of the old world, as one of the most important aids for giving opportunities for salmon to reach their native river for reproductive purposes. Do away with this Sunday or weekly close time, and allow the fishermen to carry on their avaricious desires for keeping their nets set from the opening to the close of the fishing season, and the flood gate of destruction is wholly opened up to expedite the extermination of the salmon wealth of the country.

This weekly close time is and always has been a permanent record upon the statutes of almost every civilized country in the world, in the waters of which the noble salmon are indigenous. The salmon, being migratory, make their journeys to their native rivers in large bodies, or "runs," as they are called, within certain limited periods of time. In some cases a longer or shorter period is taken. In the Baie des Chaleurs the time will be included in about six or eight weeks; and should these

nets be kept down during the whole of this time they would become barriers (or fixed engines completely) to the upward passage of salmon along the coasts, and shores, on their migration to the rivers to uphold their species.

To show the destructive nature of some of the nets used, sketches are herewith giving of those in general use on both sides of the Baie des Chaleurs. Some of them are such complete engines of destruction and set in such direct opposition to the requirements of the law and regulations as to demand their confiscation, and infliction of the severest penalties upon the parties who use them. The statutes read, sub-sec. 7, sec. 14, Fisheries Act. "No one shall use a bag-net, trap-net or fish pound for capturing salmon." Now, in opposition the nets used for capturing salmon on the New Brunswick, side of the Bay are the most complete and wicked invention of a trap-net that could be devised for the capture of salmon. The statute furthermore says: "No one shall fish for, catch or kill salmon in tidal waters from 6 o'clock in the afternoon of Saturday till 6 o'clock in the forenoon of every Monday."

Now, not only are these illegal and wickedly destructive trap-nets set and in general use on the New Brunswick side of the bay, but they are kept there as fixed engines during the whole of the fishing season, and not taken up during the weekly close time from Saturday night till Monday morning. Thus, these fishermen are actually usurping a privilege from your Department which is hastening the end of the salmon wealth of that bay and the rivers emptying into it, and enriching themselves by wrongdoing, as against their brother fishermen on the other side of the bay who carry out your fishery regulations, and in addition creating strife and dissatisfaction with other fishermen who, through their representatives in Parliament, are importuning your Department for permission for the same privileges which the others are tacitly permitted to enjoy as of their own right.

Appended will be found plans of several descriptions of nets in use for capturing fish in tidal waters, and it would appear that hardly two persons agree upon what a trap-net is. From what I can learn, the nets used on the New Brunswick side of Baie des Chaleurs, shown in figures Nos. 3^1 and 3^2, are the wickedest of traps for killing salmon. My definition, is that any fixed net so set as to lead fish through one or more apertures into a pen or pound attached thereto, from which they cannot escape, is a veritable "trap-net."

Even the hang nets herein given would be interpreted in England as "fixed engines." I quote from the report of the Fishery Board of Scotland for 1888, thus: "As to the destructive effects of hang-nets on river fisheries, the English inspectors point out in their fourteenth annual report that they, in a few years, reduced the annual yield of salmon in the Tyne from 129,100 to 21,746, after which a by-law was passed restricting the area of their operations, since which time the Tyne fisheries have very greatly improved."

Mr. Berrington, the Chief Inspector of Fisheries for England, in his report to the English Board of Trade, says:—

"The mode of fishing in the sea for salmon is exclusively by hang-nets. This description of net is capable of intercepting a far larger proportion of incoming fish than would be taken by draft-nets, and in this district its efficiency is habitually still further increased by the illegal practice of anchoring the shore end. On my arrival at Whitby I saw two nets anchored off the pier, extending several hundred yards seaward. On the following evening I saw four nets used in this manner, and acting as a complete barrier to the passage of fish. I drew the attention of the conservators to this illegality."

"It would be undesirable to alienate the upper proprietors, who have the control of the spawning grounds; and considering the exertions they have made, it would be unfair to reduce their opportunities of taking fish after the nets are removed."

The mode of fishing in the public water or tide-way of the Trent is by beam-nets. They are fished from a smack, but are stationary when at work, and are placed so as to face either the flow or the ebb of the tide. The length of the beam is from

20 to 22 feet; the mesh of the purse is very small. * * * The complaints against the beam-nets are that they take salmon illegally and destroy large quantities of immature fish. These nets cannot fail to take salmon * * * . The law respecting the use of small-meshed nets in salmon fisheries is one which deserves consideration. * * * In the case of beam-nets, they are in fact fixed engines and cannot on that account lawfully be used for the capture of salmon. * * * With regard to the complaint that the beam-nets (as fixed engines) destroy large quantities of immature fish, it is necessarily true. * * * The salmon fishermen complain seriously of the number of salmon taken by them, and of the injury they do to the young of salmon if used in the spring months.

The concensus of opinion by most authorities on the preservation of the salmon fisheries in Britain and other countries in the old world has been that, "fixed engines," as stationary nets, were so destructive to the salmon fisheries generally, and that they so barred the passage of these fish to their native rivers for breeding purposes, that these "fixed engines," as they are styled, have been almost wholly abolished: and it is said that from this cause, is mainly to be attributed the present continued supplies of the salmon in most rivers of Britain.

A single instance is here given of a river which has been fished for centuries—the Tay, in Scotland. The rentals of the salmon fisheries connected with it have during the past six years given an average annual income of $101,825. The country through which this river runs, from its source down to the sea, is densely inhabited, and its estuary and coast line connected with it is crowded with shipping and traffic of all kinds to an enormous extent. Manufacturing industries of various kinds are located almost throughout the whole extent of the river, yet it is found that salmon are taken in such abundance in its waters as to produce the annual wealth above mentioned, giving employment from these salmon fisheries to many people, and adding luxury and pleasure to anglers and others of the general community. This river Tay, I am informed, is actually insignificant, when compared with the Restigouche, its estuary, and the famous Baie des Chaleurs connected with it. The Restigouche, with its numerous tributary rivers, may be said to be in their primeval state, almost down to the tide-way. Not a mill or manufactory is built upon the river; its waters are not contaminated with pollutions of any kind and its purity and capacity as the home of the salmon is the same as when it first fell from the hand of nature. It has always held widespread notoriety as one of the greatest salmon-producing rivers since the first settlement of Canada; and why should it be allowed now to become reduced in its capacities for keeping up a great standard of fish wealth, somewhat in comparison with the river Tay, above referred to? And so it might, if the improvidence and avarice of the netters were stayed, and they were compelled to adhere to the fishery regulations, as to the use of proper descriptions of nets and the due observance of the weekly close time.

In a reference to the close seasons for net fishing, and angling on the river Tay, a much greater latitude is given by the Scottish laws than in Canada.

The annual close time for netting on the Tay is from 27th August to 10th February; on the Baie des Chaleurs, 15th August to 1st March. For angling on the Tay, from 31st October to 10th February; on the Restigouche, from 15th August to 1st February. From this it will appear that the fishery authorities in Scotland do not consider that angling for salmon is as injurious as the use of netting by fixed engines. The Tay anglers are permitted to take salmon up to the 31st October, which gives a period of two months and a-half longer than is allowed anglers on the Restigouche or other Canadian rivers.

The general law for close times for salmon in England is from the 1st of September to the 1st of February for nets, and for angling from 2nd November to 1st February. In many rivers the season commences later. Thus, throughout England, salmon angling is permitted two months later than in Canada.

The undersigned, after a careful consideration of all the bearings relative to the question of the maintenance of the salmon fisheries of the Baie des Chaleurs, and after a relation of the various points from which his conclusions are drawn, recommends the following:—

1. That the description of salmon net to be used along the coast, and in all of the tidal waters of said bay, should be similar to the one marked No. 1 of the plans hereto attached, known as the *wing-net*, or *hook-net*. It has no trap, nor bottom attached to it; it was the net universally used in all of the waters of the bay previous to 1878, and is the net now used on the Quebec side of the bay, in the counties of Gaspé and Bonaventure. The lifting it is easily performed to comply with the weekly close time, and should now be as satisfactory and remunerative to the fishermen of the present time as previous to 1878, and especially so when the netters on the Quebec side of the bay use it, and would be satisfied to still use it if the netters on the New Brunswick side were compelled to do the same. But if one portion of the bay is fished with an illegal net, which is more destructive and better adapted to entrap the salmon, all other fishermen naturally desire to partake of this privilege, illegal though it may be.

2. Restrictions should be made, even regarding the above-named net No. 1, as to its length, for one station with 100 fathoms may be so favourably situated (but ruinously so, on the upward passage of salmon) as to capture more fish—in some instances two, three or four times the number that a 200-fathom net set just alongside will take.

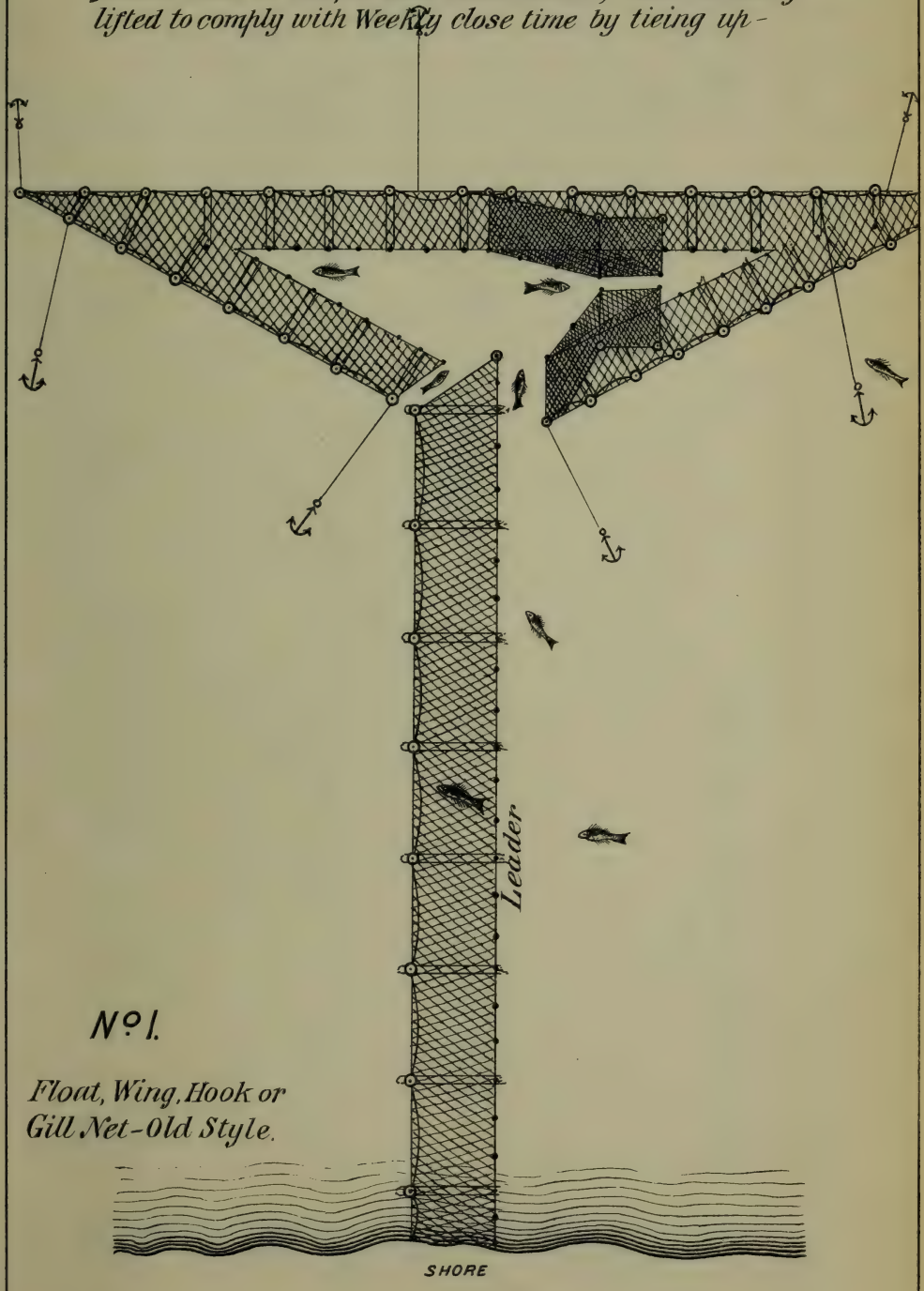
The meshes of all salmon nets in the Baie des Chaleurs and the estuary fish-ways should be a like size for leaders, wings and hooks, namely, $6\frac{1}{2}$ inches. The meshes of nets now in use are almost invariably 7 inches. In licensing the nets, the length of net in fathoms should include the length of the leader, as well as all hooks or wings that may be connected with the working of the net.

3. The salmon stations for nets should be so located as not to interfere too destructively with the incoming "runs" of salmon when rounding certain points, now well known to fishermen and others. The length of each net licensed should be established from the adaptability of the station for capturing salmon.

4. The close season for salmon, by netting, to be as laid down in the consolidated regulations of 1889, and that the weekly close time, from Saturday until the following Monday, be strictly enforced everywhere alike.

5. That the fee of 3 cents per fathom on salmon nets be abolished, and that in lieu thereof a tax of $\frac{1}{4}$ of a cent per pound of fish, or 25 cents per 100 pounds, be exacted in all cases on the catch of salmon in the Baie des Chaleurs, and in all other salmon fisheries by nets in the Atlantic Provinces.

Wing-Net or Hook Net, none other used prior to 1878 in Bay des Chaleurs.- and the only legal one now in use in Quebec Side in Gaspe, and Bonaventure, can be easily lifted to comply with Weekly close time by tieing up -

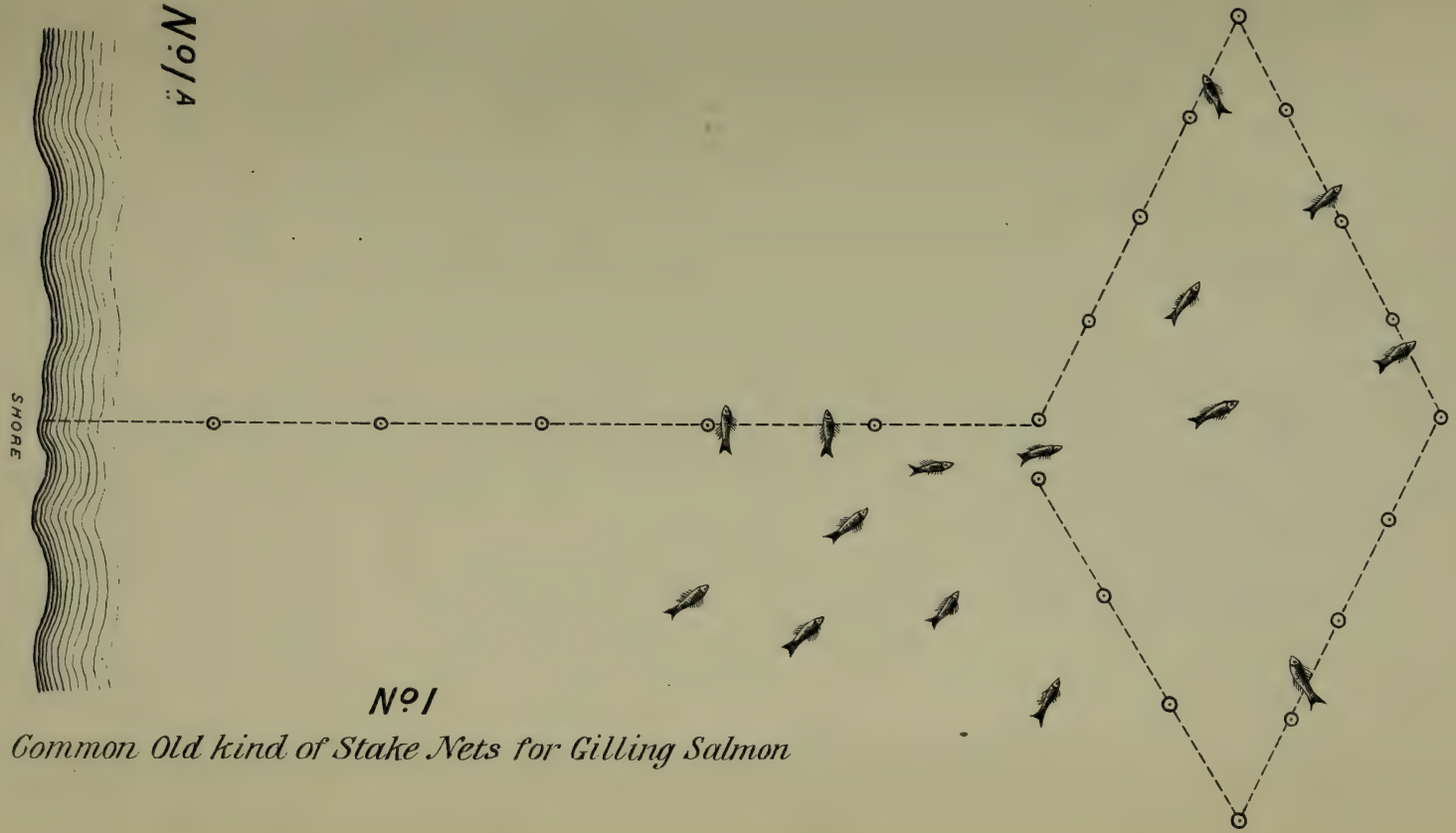


No. 1.

Float, Wing, Hook or Gill Net - Old Style.

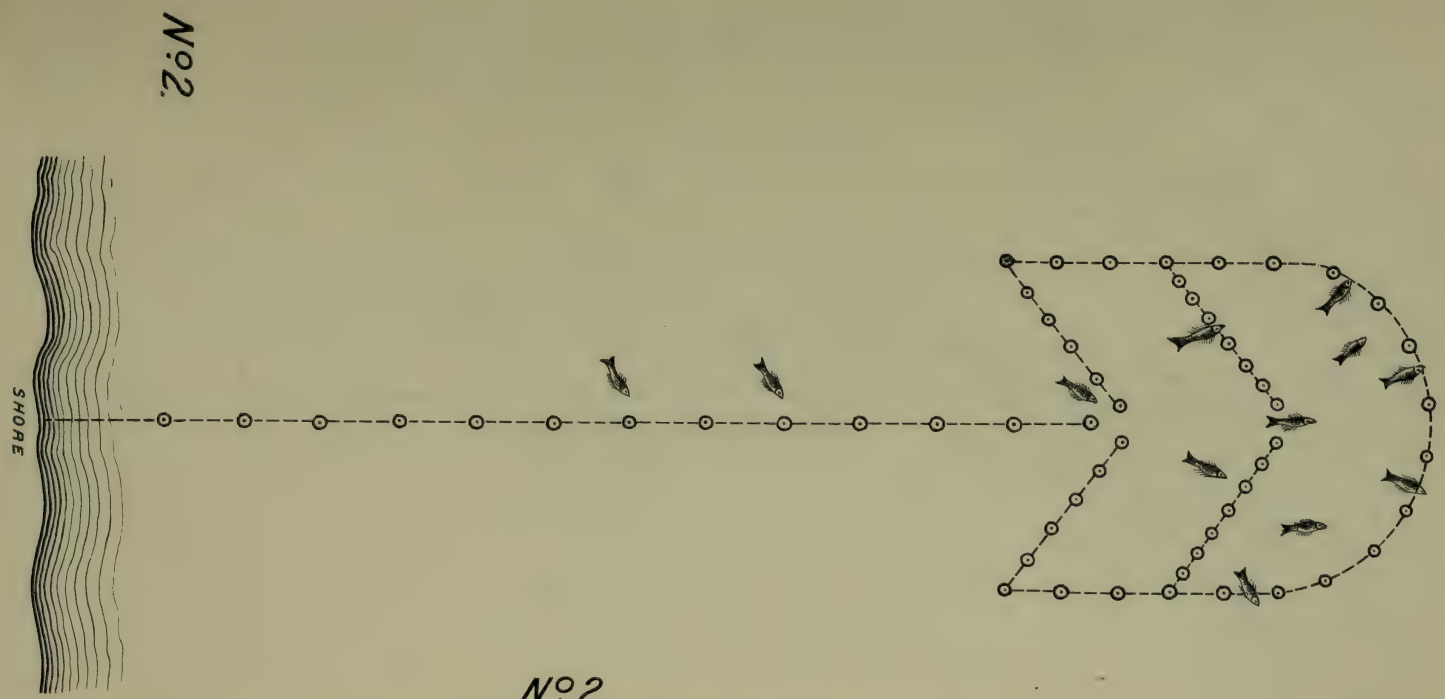
No 1A

Common Gill or Stake Net easely Lifted



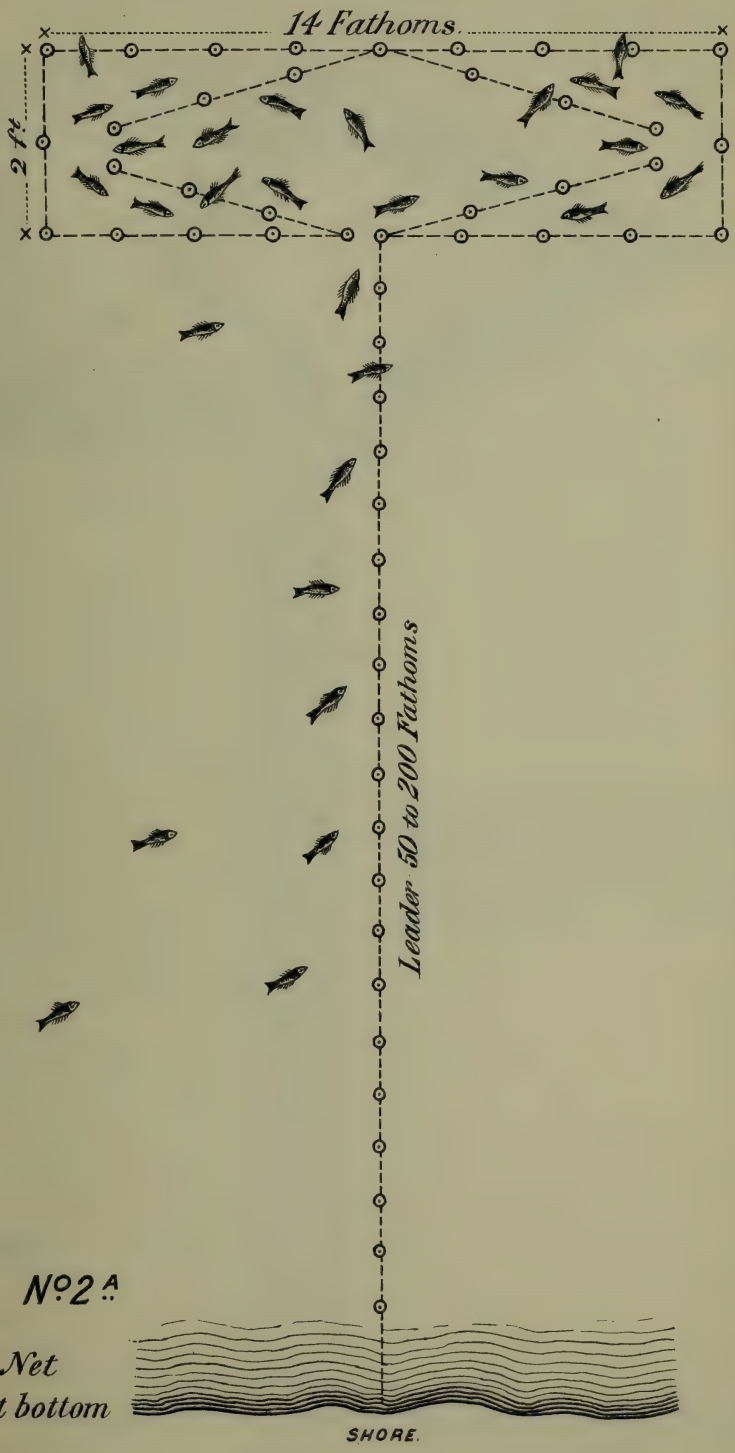
No. 1

Common Old kind of Stake Nets for Gilling Salmon



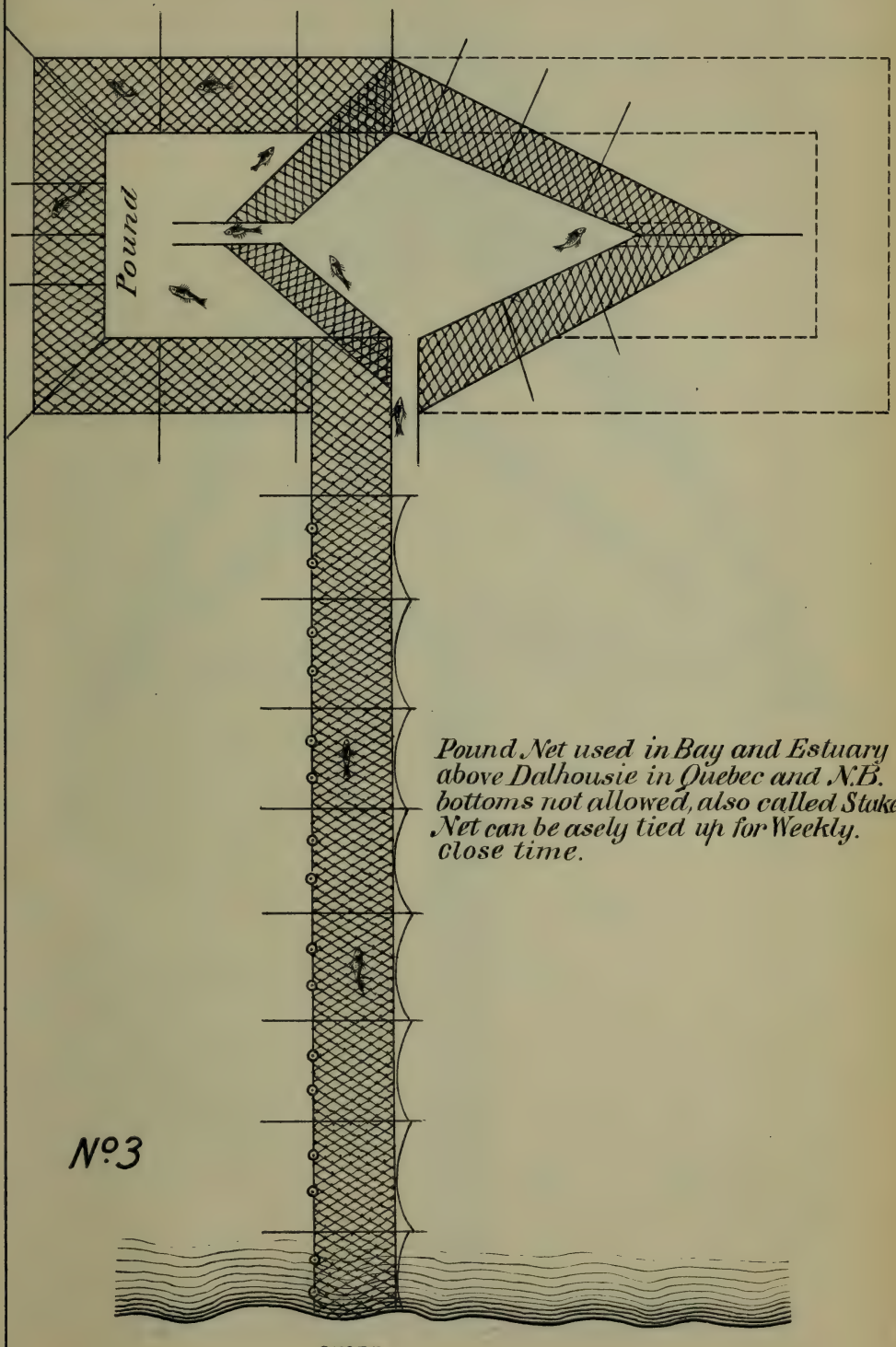
N°2.

Common Hang or Stake Net for Gilling Fish, open top and bottom.



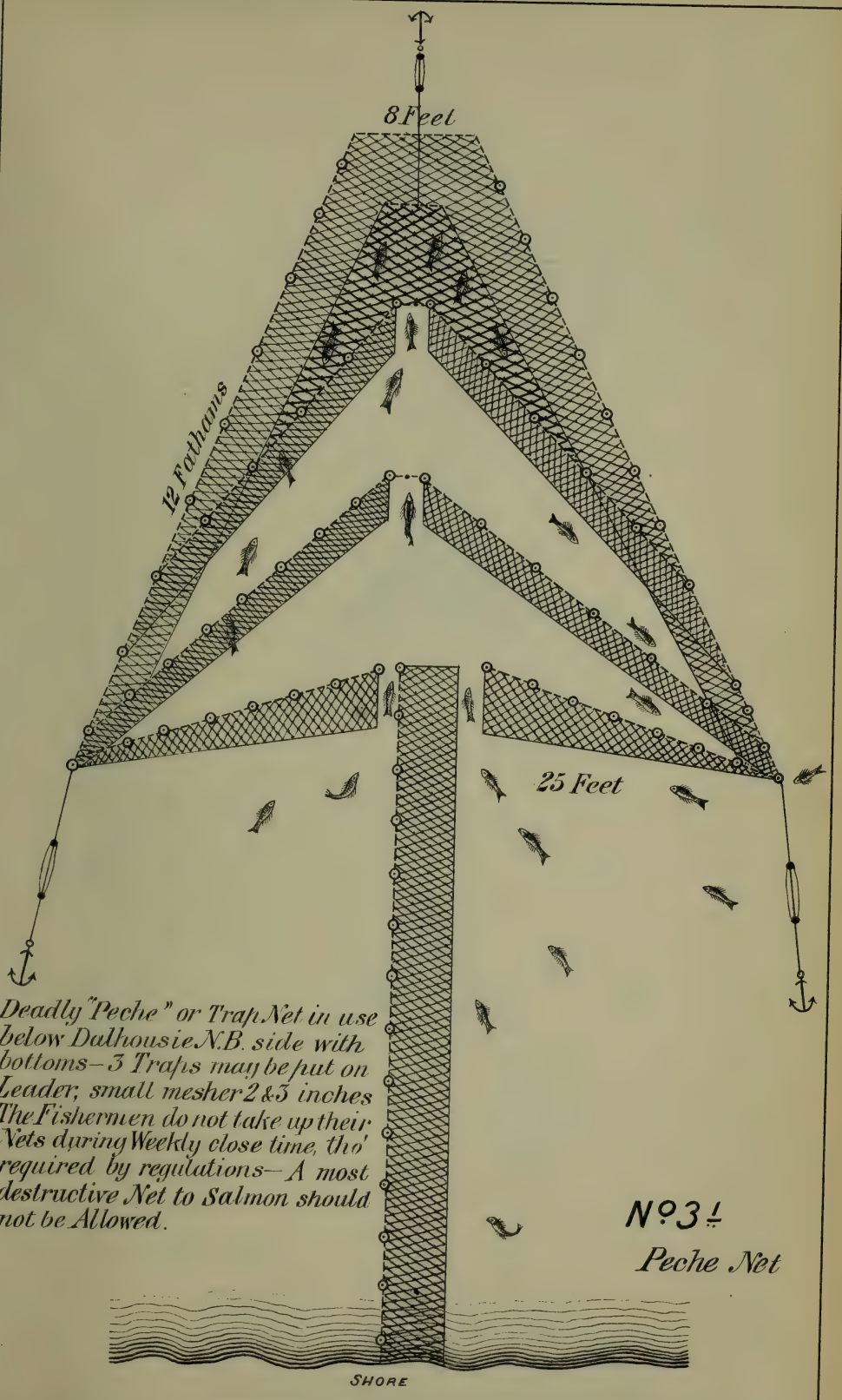
No. 2 A.

Gill Net without bottom



Pound Net used in Bay and Estuary above Dalhousie in Quebec and N.B. bottoms not allowed, also called Stake Net can be asely tied up for Weekly. close time.

No. 3



Deadly "Peche" or Trap Net in use below Dalhousie N.B. side with bottoms—3 Traps may be put on Leader; small mesher 2 & 3 inches The Fishermen do not take up their Nets during Weekly close time, tho' required by regulations—A most destructive Net to Salmon should not be Allowed.

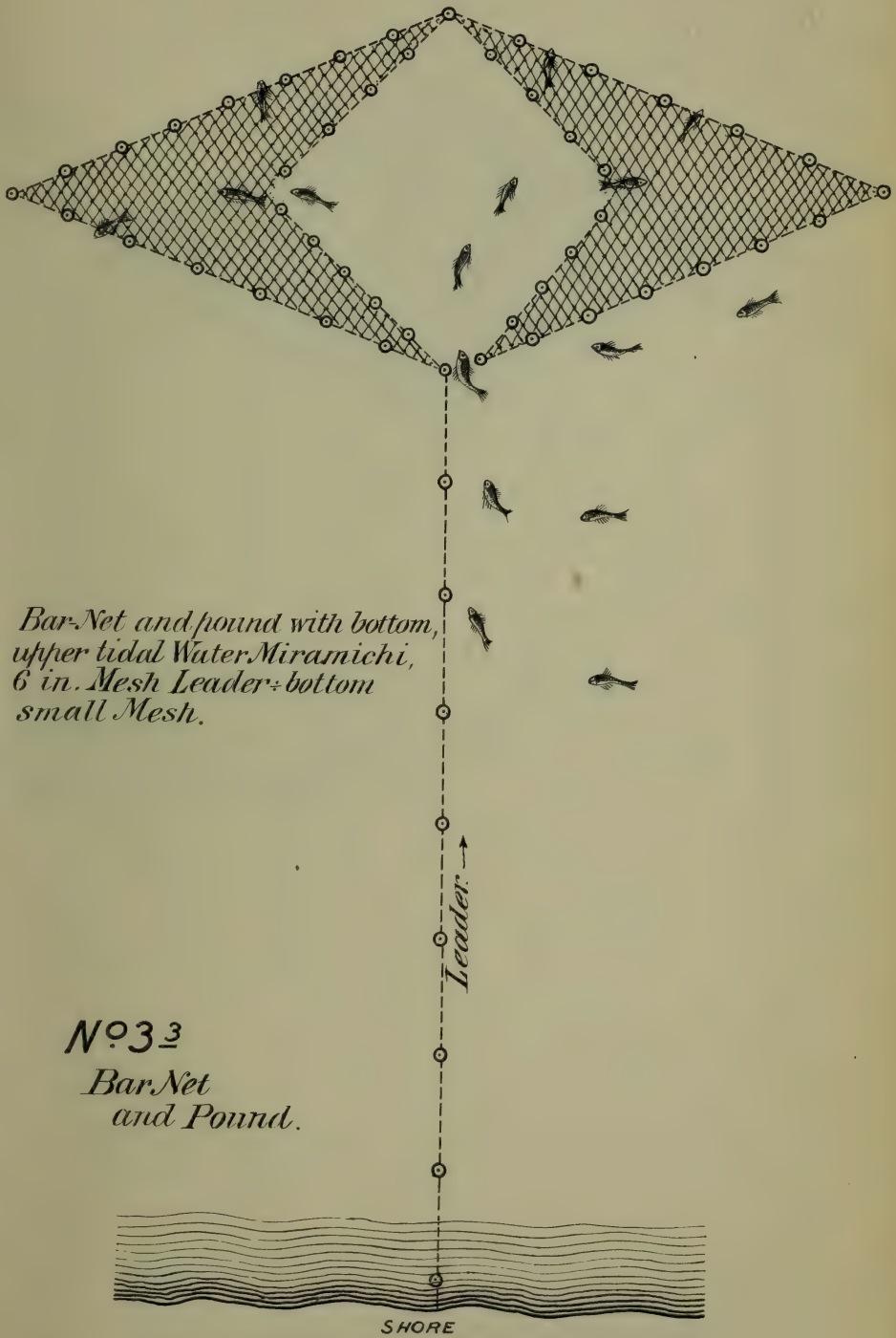
No 3½

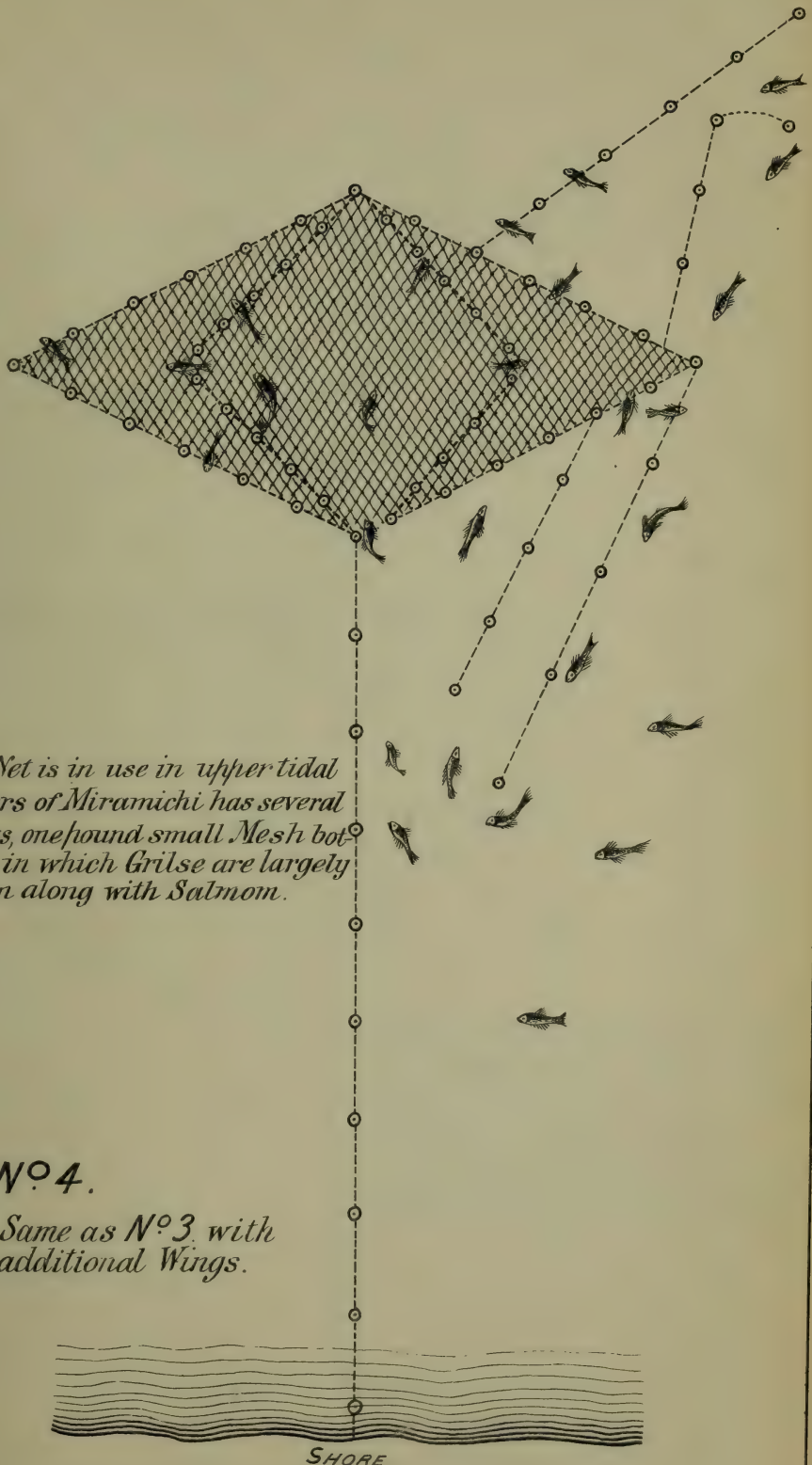
Peche Net

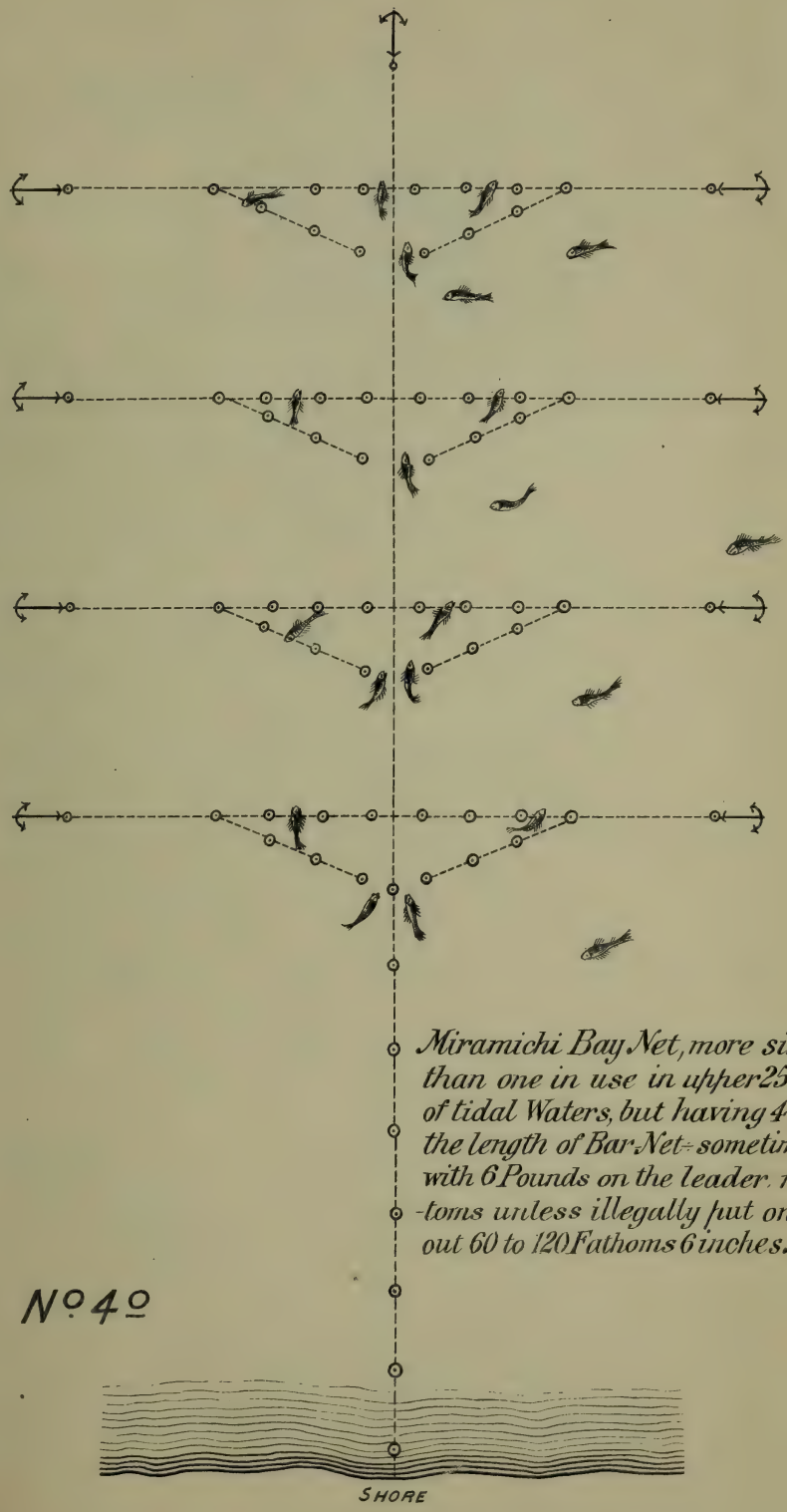
Most destructive Trap, and pound Net in use on N.B. side of Bay Chateurs- same Style as No. 3 with 3 Traps - used with bottoms, and not taken up during Weekly close time, Which is contrary to Law, their Traps and pounds should be Abolished

No. 3.

Pecke Nets.

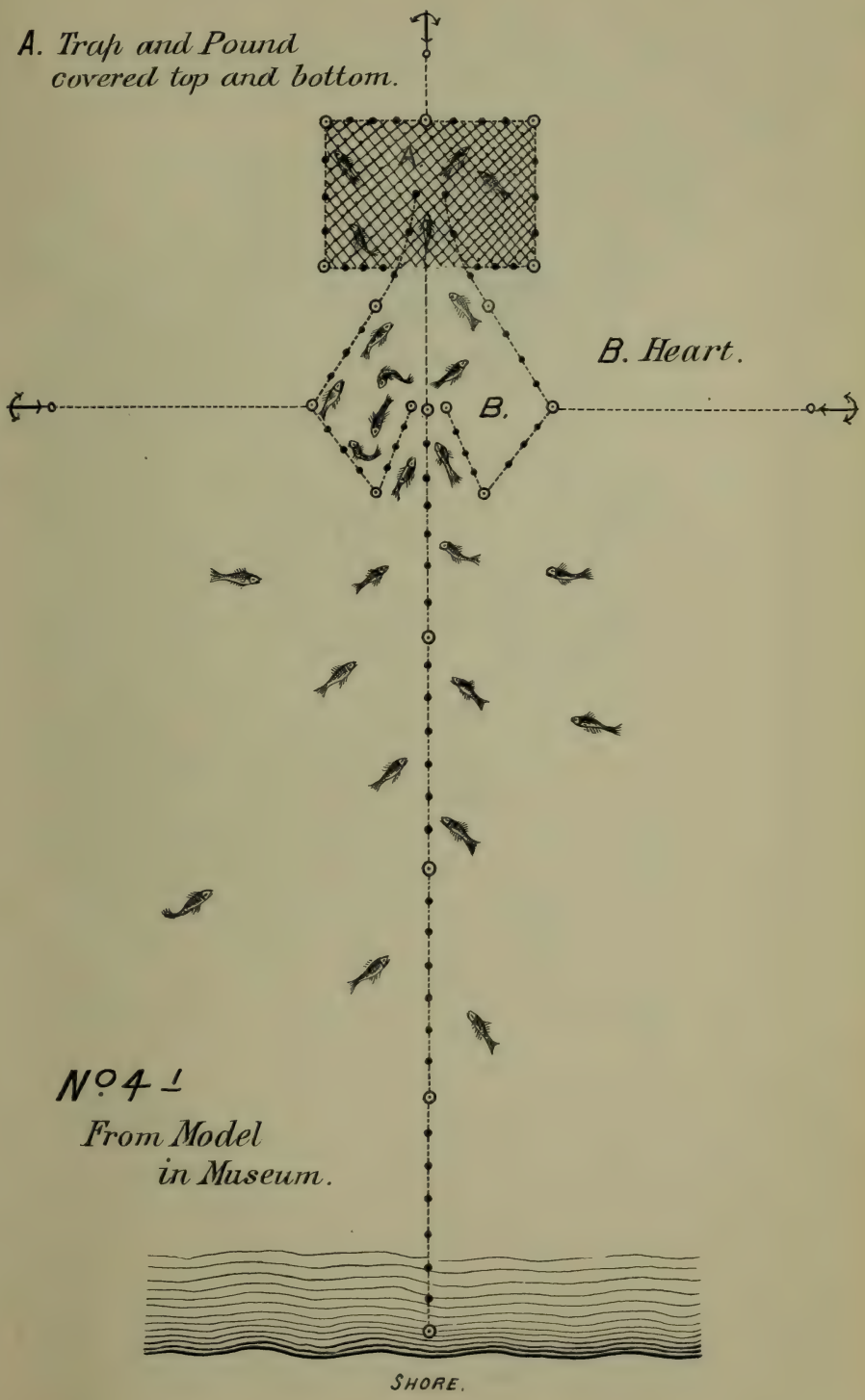

Bar-Net and pound with bottom, upper tidal Water Miramichi, 6 in. Mesh Leader & bottom small Mesh.
Leader.
No 3 3
Bar Net and Pound.
SHORE

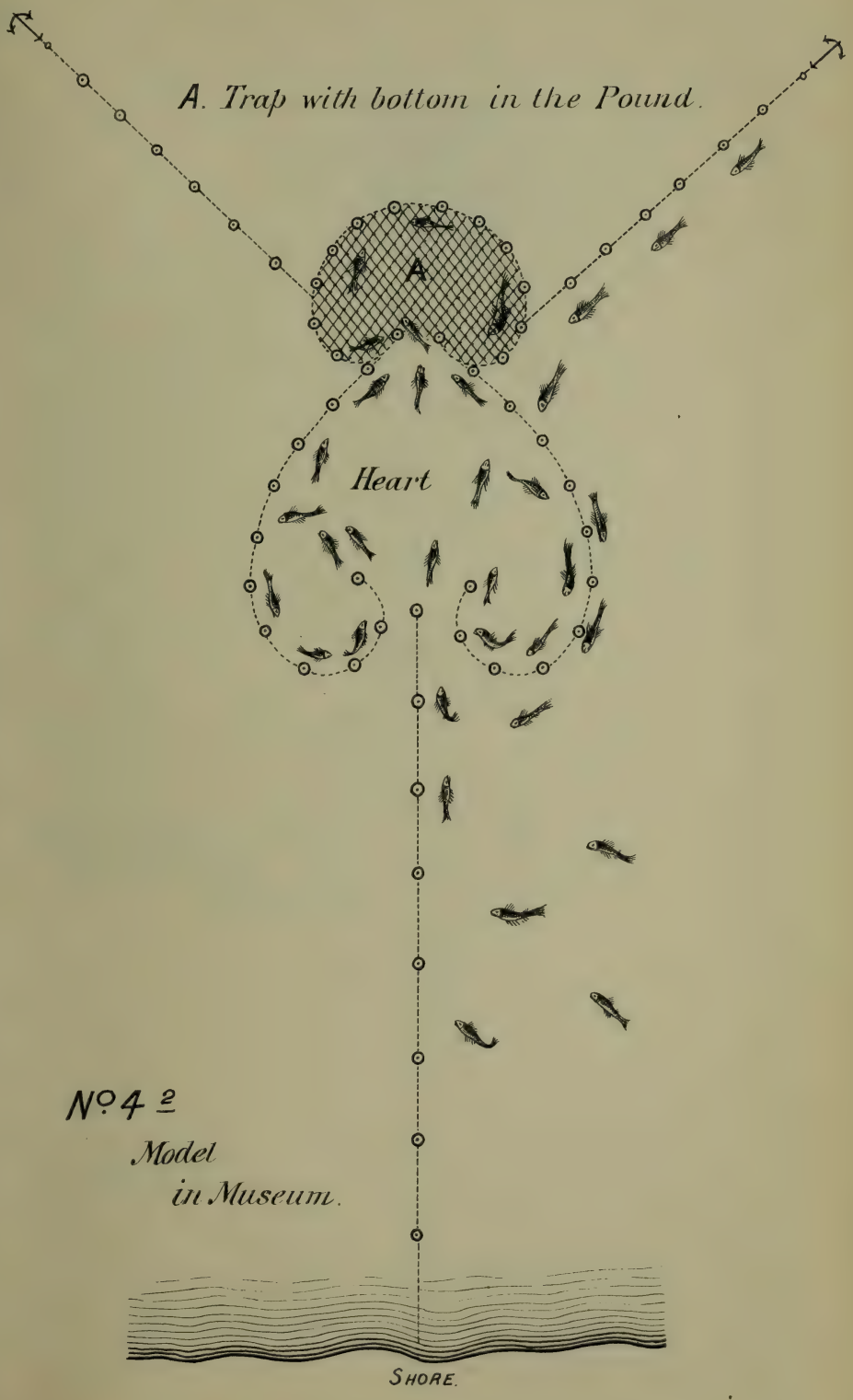

This Net is in use in upper tidal Waters of Miramichi has several Wings, one pound small Mesh bottom - in which Grilse are largely taken along with Salmon.
No 4.
Same as No 3 with additional Wings.
SHORE.

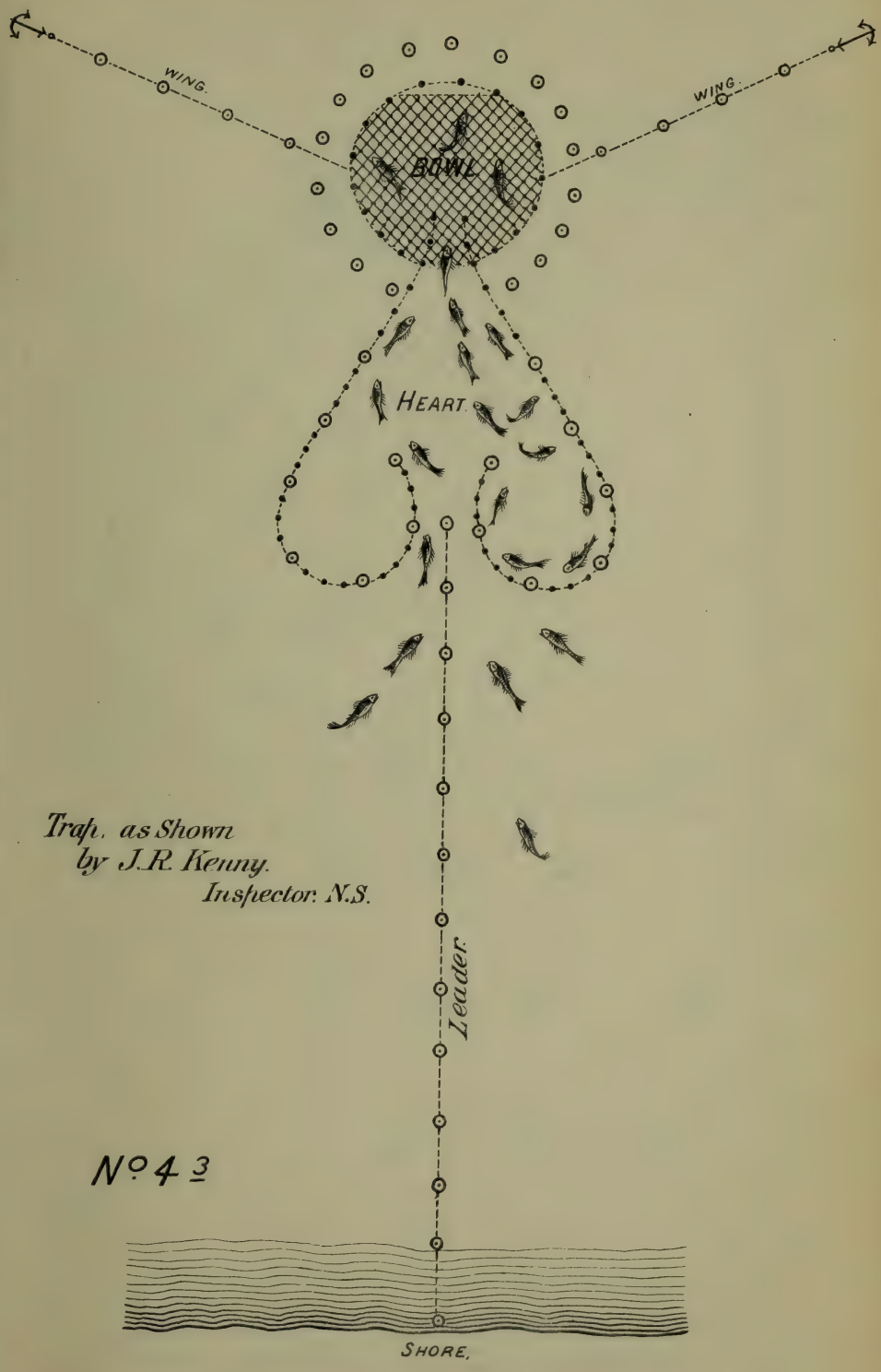


Miramichi Bay Net, more simple than one in use in upper 25 Miles of tidal Waters, but having 4 times the length of Bar Net- sometimes with 6 Pounds on the leader. no bottoms unless illegally put on:- put out 60 to 120 Fathoms 6 inches Mesh.

No 40

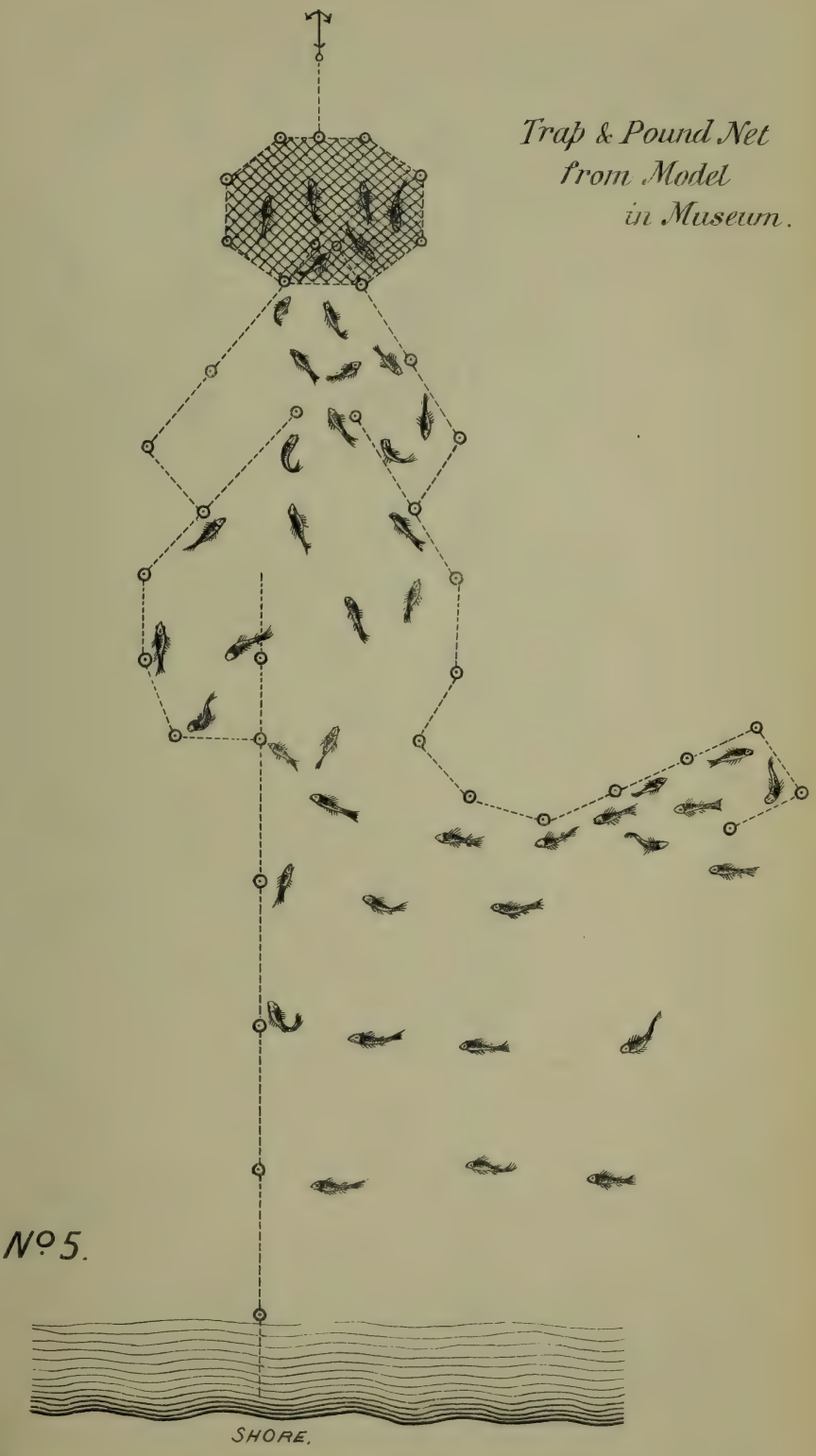

A. Trap and Pound
covered top and bottom.
B. Heart.
B.
No 4 1
From Model
in Museum.
SHORE.

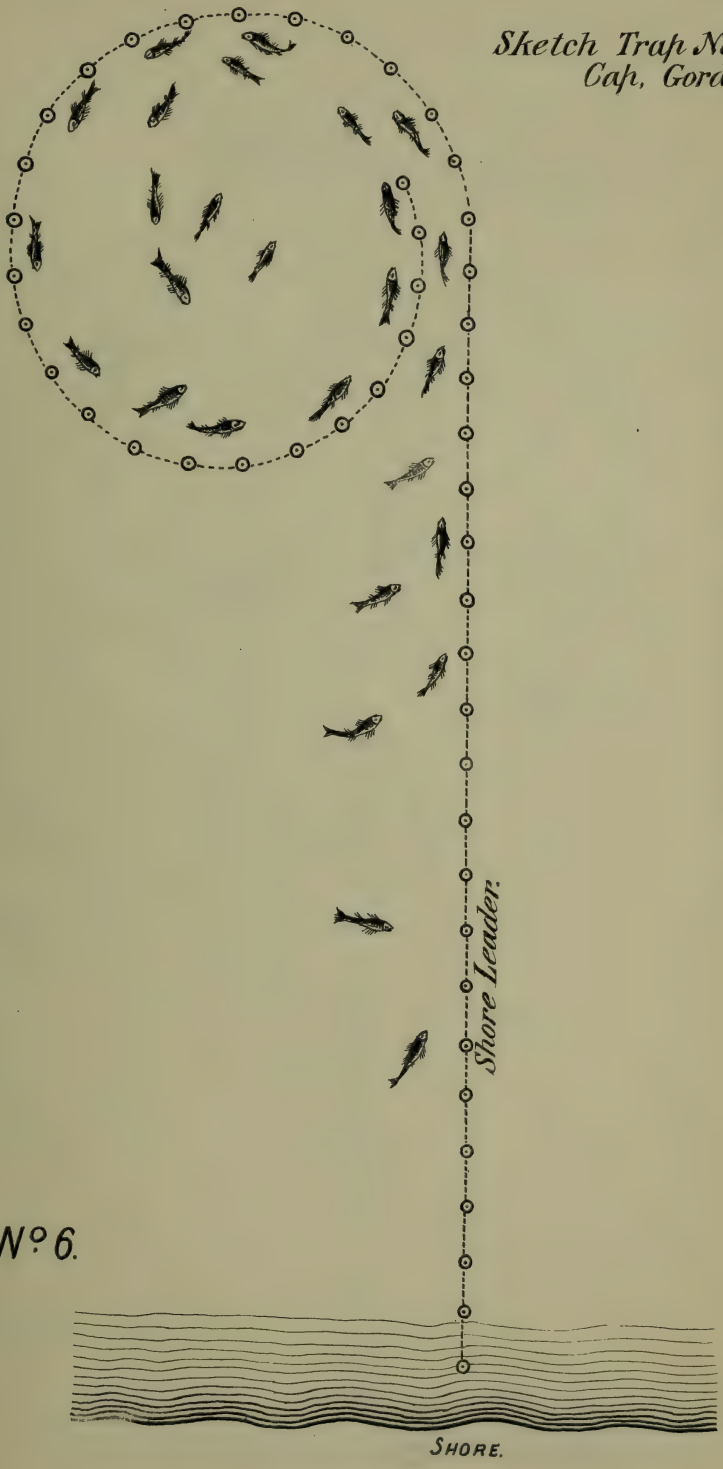

A. Trap with bottom in the Pound.
A
Heart
No 4 2
Model
in Museum.
SHORE.

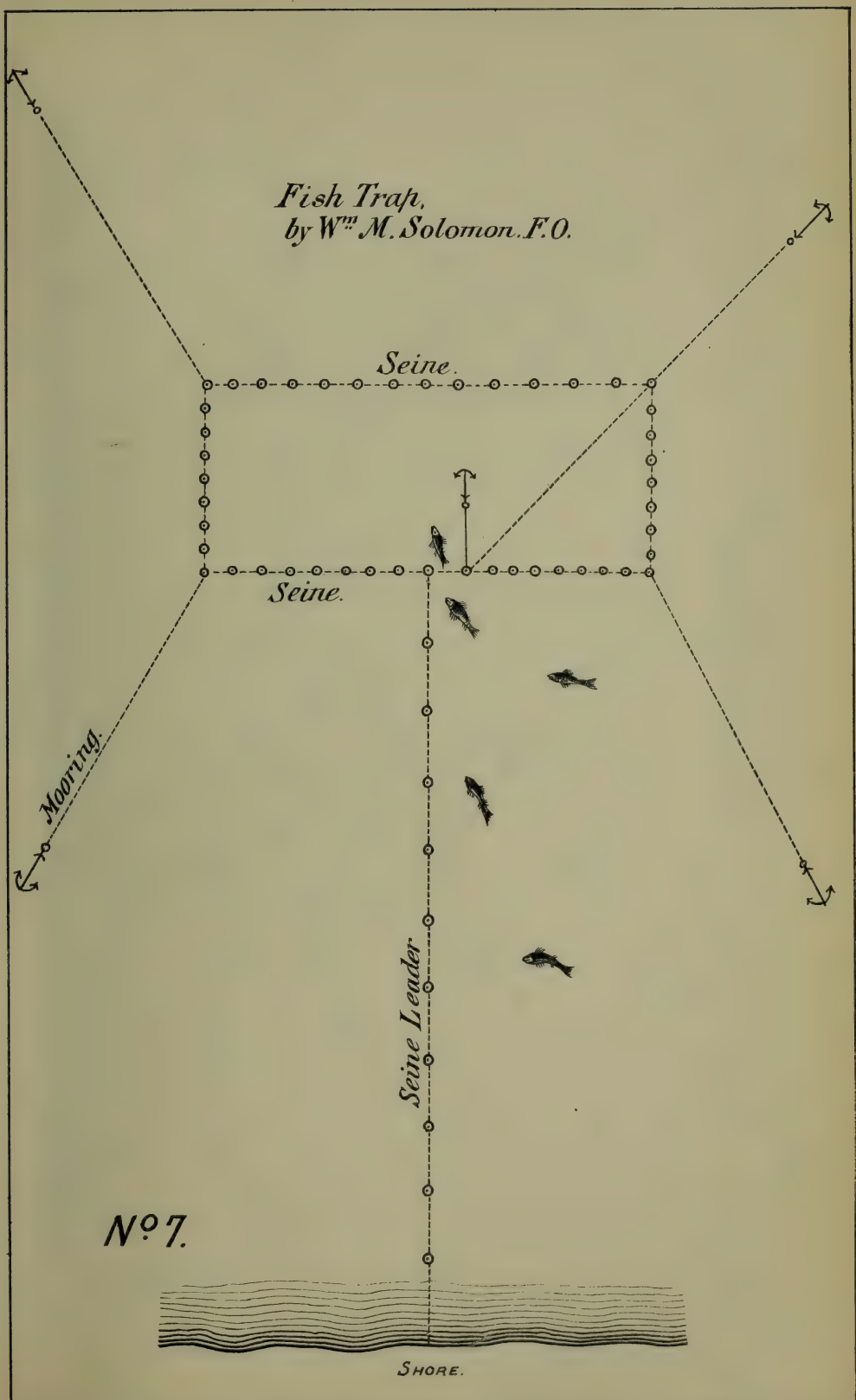


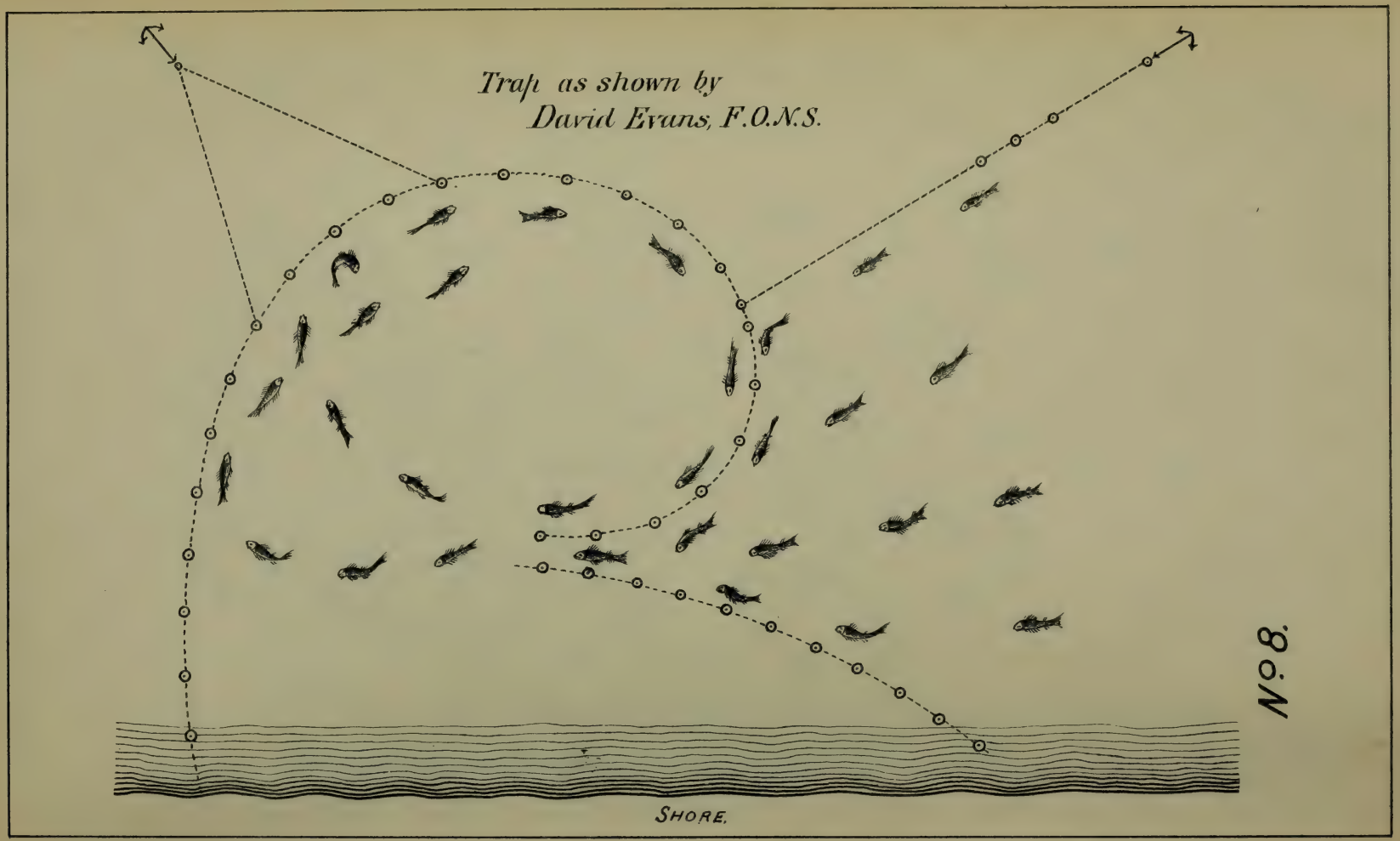
Trap, as Shown by J.R. Kenny. Inspector. N.S.

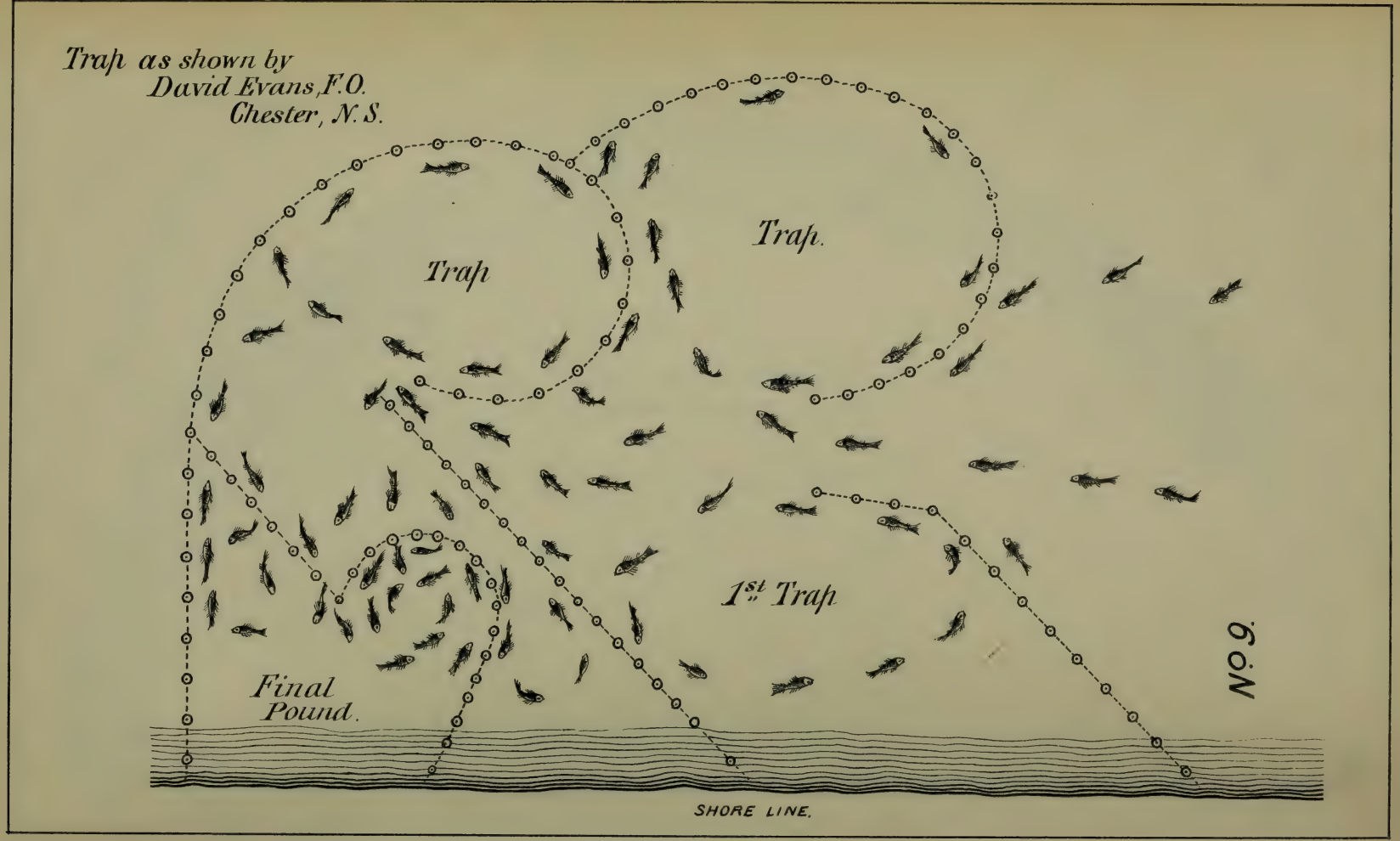
No 43

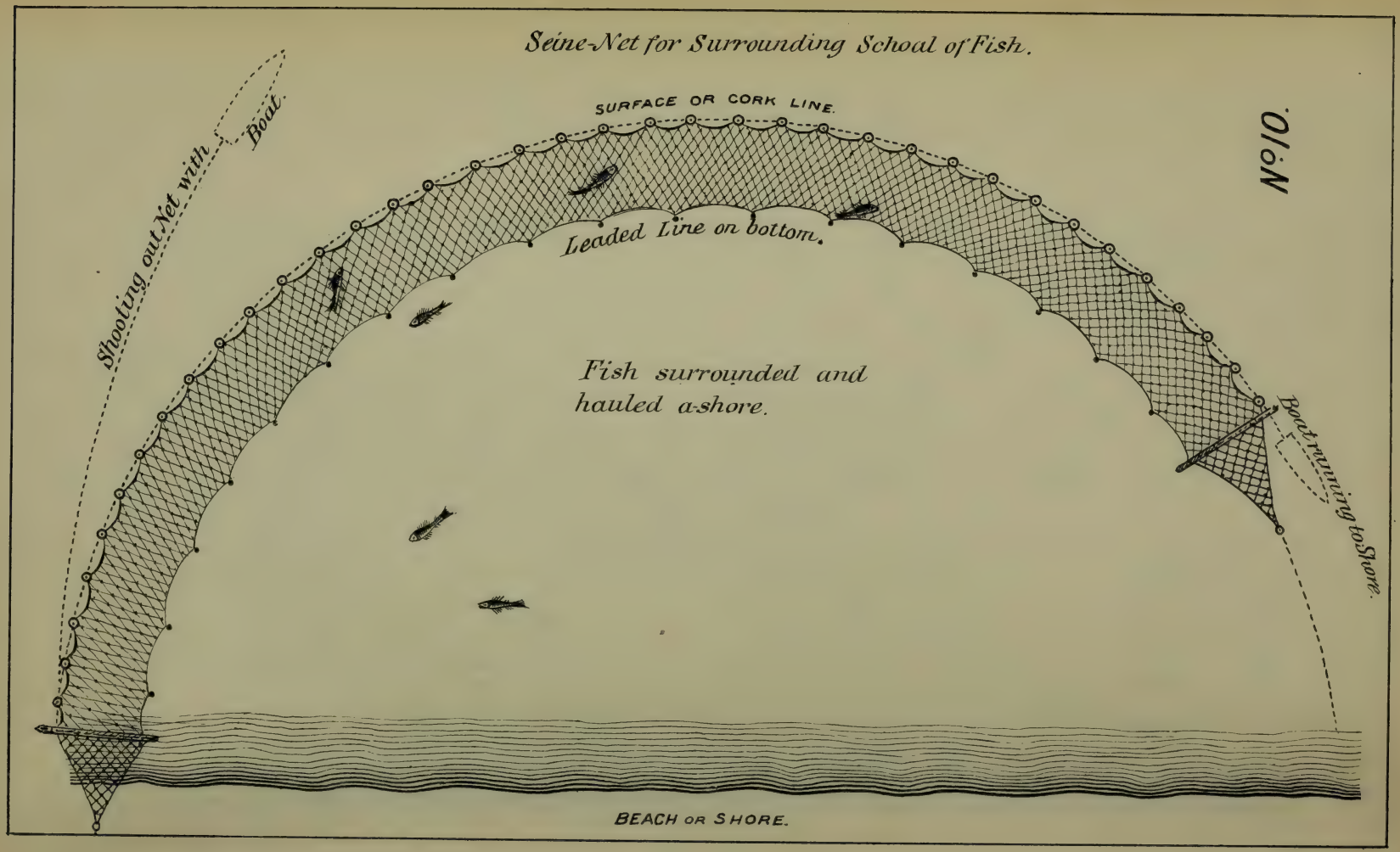

Trap & Pound Net
from Model
in Museum.
No 5.
SHORE.

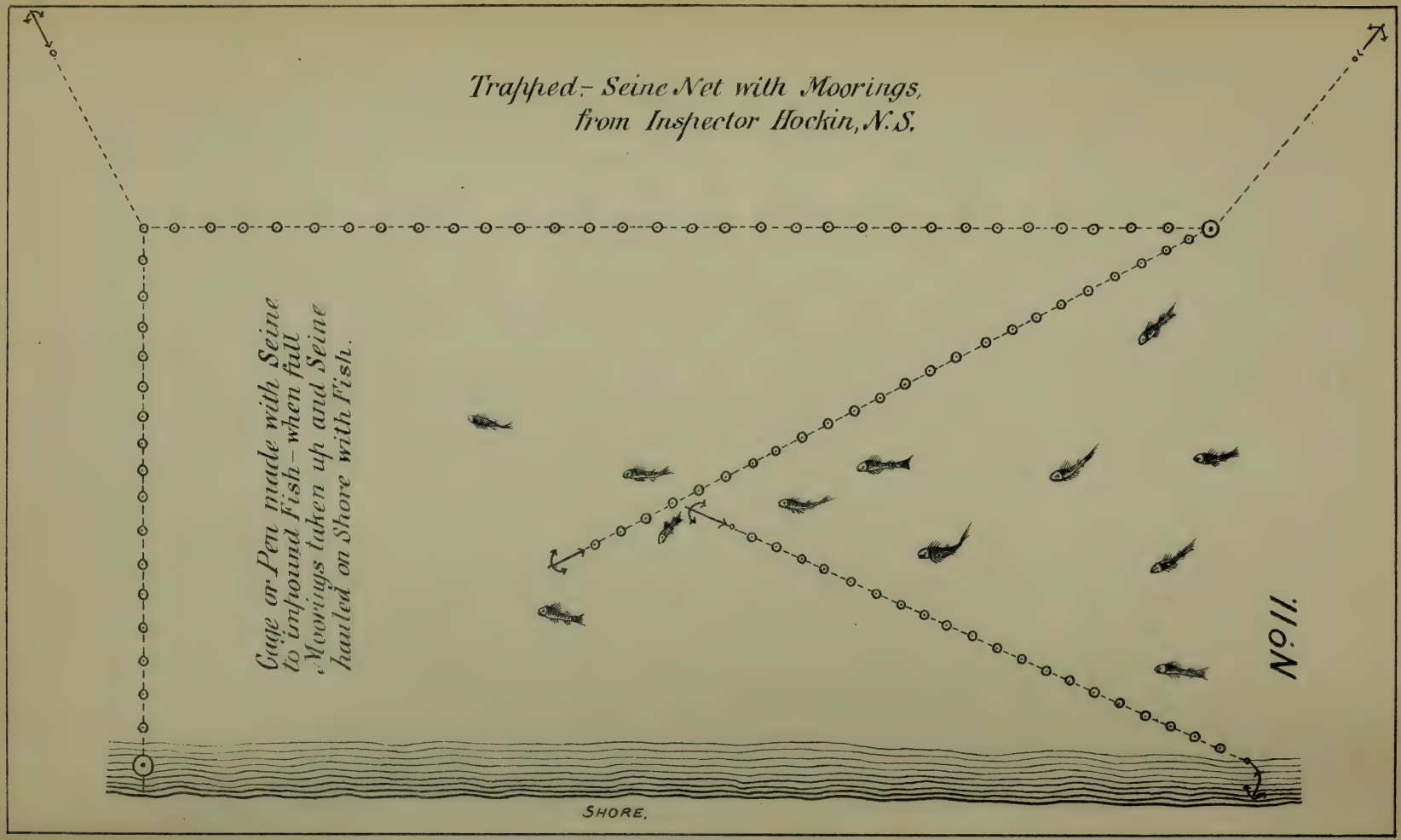

Sketch Trap Net,
Cap. Gordon.
Shore Leader.
No 6.
SHORE.


Fish Trap,
by Wm M. Solomon. F.O.
Seine.
Seine.
Mooring.
Seine Leader
No 7.
Shore.


Trap as shown by
David Evans, F.O.N.S.
SHORE.
No 8.


Trap as shown by
David Evans, F.O.
Chester, N.S.
Trap
Trap.
1st Trap
Final
Pound.
No 9.
SHORE LINE.


Seine-Net for Surrounding School of Fish.
No 10.
SURFACE OR CORK LINE.
Shooting out Net with Boat.
Leaded Line on bottom.
Fish surrounded and hauled a-shore.
Boat running to Shore.
BEACH OR SHORE.


Trapped:- Seine Net with Moorings,
from Inspector Hockin, N.S.
Cage or Pen made with Seine
to impound Fish- when full
Moorings taken up and Seine
hauled on Shore with Fish.
N.
SHORE.

FISH-LADDERS.

THEIR NECESSITY FOR THE MAINTENANCE OF FISH LIFE WHERE MILL-DAMS AND OTHER IMPASSABLE BARRIERS EXIST.

This fish-ladder question is one of vital importance for the maintenance of fish life in the rivers streams and other waters of Canada on which natural barriers exist, or where artificial barriers have been built, which shut off the passages of fish to their breeding grounds to the waters above, and in addition to this prevention for the upward migration of fish, these dams invariably form deep holes or basins just below them, in which the fish collect in large numbers, waiting, as it were, for some opportunity to ascend the difficulty before them. Here they become the easy prey for the fisherman and poacher, who, regardless of the fact of these fish being penned there, mercilessly slaughter them in every conceivable way.

It is not an uncommon occurrence to see at the foot of the dam or other barrier, at the running times of fish (which means the time their instinct leads them onward to their spawning grounds), scores of men and boys with every kind of engine of destruction—nets, spears, hooks, traps and even guns—catching and killing these ripe, pregnant fish, with the fruitful eggs flowing from their bodies, besmearing the boats and banks of the stream. If it were not for these impassable barriers stopping the fish they would pass on, and not become impounded in these pools or pens, and opportunity would be given them to scatter their eggs here and there all along throughout the streams and other waters above, where nature had directed them to go.

Whilst there are many natural barriers to be found shutting off the ascent of fish, there are also innumerable artificial ones, which have been permitted to be built by man, such as mill-dams, sluices, &c. Many of these are placed directly across the streams, and these are the principal causes which have brought about the great destruction of fish life which is now so sadly experienced throughout the country, and which so frequently calls forth the attention of the Fisheries Department by applications to erect fish-passes and other contrivances by which the remnant of the fish in many streams may be enabled to surmount these barriers and reach their spawning grounds to keep up their species.

Great ingenuity has been shown by inventing various kinds of appliances to give facilities to the fish by which they could surmount these natural and artificial barriers. In some cases the old original zig-zag fish-ladder in use for the past century stands supreme in many parts of the world, and has rendered great service both for introducing and maintaining fish life where it has been properly put up.

Besides the old ladder just referred to, later designs have been invented in Canada. One, known as Rogers' ladder, has been put in operation on some streams, and conflicting accounts are given regarding its proper working; and later Hockin's fish-pass has been patented, and whilst its simplicity of build and apparent utility bids fair to supersede all others, it has, nevertheless, not had sufficient trial to warrant perfection in its practical working to give authority to the Department to adopt it as the governmental fish-ladder which shall be applied to all places where such an improvement is required to advance the fisheries' interests throughout the country.

Artificial barriers, such as dams, may in the great majority of cases be found suitable to have built in or attached to them passes of the latter kinds, such as Roger's and Hockin's; but where natural barriers, such as waterfalls over rocky ledges, &c., these ladders can not, as a rule, be applied, without great expense in blasting out a locality for the pass. In such cases the old zig-zag pass will still hold its place of superiority. If, perhaps, by some modification of the Roger's and Hockin's ladders they could be somewhat satisfactorilly applied below the barrier; but the main object of excellence over all others now claimed by these patentees is, that their location is in the pond above the dam, or other barrier to surmount.

In view of the great necessity that exist for establishing some one perfect fish-ladder by the Department, which shall in all cases be erected wherever fish are prevented from passing up the river and other streams to spawn, by reason of mill-

dams or other obstructions, the undersigned would suggest that the Department should cause one of Hockin's fish-passes to be erected on some river, or other stream which the more important kinds of fish are known (or have been known) to pass up to breed, and at the head or outlet of such pass build a large cage, or trap, into which all fish ascending the ladder must enter, and become impounded until liberated—such pen and ladder to be placed under the special guardianship of some competent and trustworthy person during the period in which fish are on their migration. In this way, if the ladder shall prove its utility and efficiency for carrying fish over the dam, the fish so passing through the ladder must also enter the cage or pen at its head.

In this way the question will be practically solved regarding the efficiency of the pass, and in this way the Department could come to a satisfactory conclusion that the money granted for erecting fish-passes over dams, &c., was properly spent; and that facilities were at hand by which many rivers and streams now almost barren of fish, in which they were formerly plentiful, could be made again reproductive.

The undersigned has been instructed on several occasions to visit and inspect certain fish-ladders in different parts of the country, and in every case has found them to be perfectly useless, either from unsuitability of location or want of proper construction, the consequence of which has been that these passes, which cost considerable sums of money to help sustain the fisheries of the locality, acted the reverse way, by giving greater facilities to persons to kill the fish at the entrance of these passes, and by squandering the money in the construction of them—thus showing the necessity that exists for adopting the most perfect fish-ladder now known, and compelling the owners of mill-dams to put in these passes, under the requirements of the Fisheries Act, sec. 13. This want of a duly authorised fish-ladder, and the delay in having an efficient one put in every mill dam or slide or other obstruction in all of the streams of the country, is telling most severely against the keeping up of fish life by the natural as well as the artificial methods of reproduction.

In connection with these remarks on the fish-ladder subject, I beg to append the following as being quite pertinent:—

HOCKIN'S NEW FISH-WAY.

One of the problems which has occupied attention for some time has been that of reconciling the use of the water power of the country with the fisheries interest. Mill-dams across a river are no doubt a necessity, but at the same time if anadromous fish—that is, fish which live in the salt water but spawn in the fresh water—cannot have access to their spawning grounds, in a very short time they become extinct in the river, and the coast fisheries in the country are thereby materially affected, for to quote the late Professor Baird, the eminent ichthyologist:

"It is well known that while anadromous fish were present on the rivers there was an ample supply of cod, haddock, halibut, hake and various other species close into the shore, for the reason that these fish feed upon and therefore follow anadromous fish as they come upon our shores for the purpose of ascending the rivers. And again, when the fish have spawned in the rivers and lakes and, the young fish reached a certain stage of development, they descend the rivers in immense numbers and are fed upon by deep-sea fish."

There can be no reasonable question that the great decrease in numbers of anadromous fish has been caused in large part by human agencies—(mill-dams, sawdust in rivers, destruction of the fish while in the rivers to spawn)—and that to this fact it is owing that year by year the location of deep-sea fish it is found further and further from the shore."

It will be seen, therefore, that any contrivance which would enable the water power of the country to be used, and at the same time afford free access of fish to their spawning grounds, must greatly add to the wealth of the country. Efforts in this direction have been made, with some degree of success, by means of an inclined plane to enable a fish to get over a dam. The most elaborate of these structures is that of the United States Commissioner of Fisheries, Marshall McDonald. This, however, cost a large sum to build. The Rogers' fish-pass, which has been used by the Department of Fisheries for some years, is constructed on this principle, and there are several others. We give a cut of a recent invention by Robert Hockin, ex-M.P.P., of Pictou, Inspector of Fisheries for eastern Nova Scotia, which has been patented in Canada and the United States, and application has been made for a patent in Great Britain and the continent, the simplicity and apparent practicability of which will probably lead to its supplanting all other systems. It is constructed of a series of successive compartments, formed by longitudinal side walls and subdivided transversely by partitions—(*g*) forming compartments (*h*) and provided with a floor (*j*). The partitions (*g*) have each and aperture (*k*) near or at the bottom, and preferably in line with one another, and with a like aperture (*j*) in the dam (*a*), so that all the water fed to the compartments will pass through the aperture in the dam into the first compartment and thence into the several compartments successively. The water from natural causes diminishing step by step in each of the compartments, and finally flowing out of the last com-

partment into the river below, under a head of 18 inches or 2 feet, and therefore with a velocity so reduced that fish can easily contend against it, swim into the compartment, and thence through the several compartments into the dam above. A fish-way built on this principle 28 feet long will overcome a head of water which would require a pass 80 or 90 feet, built on the incline plane principle, while the great length of the latter and the fact of its being near the surface renders it very liable to be destroyed by ice. A Hockin pass built inside of a dam, from the bottom upwards, does not present any hold for the ice. Again, incline plane passes, being fed from the surface, are liable to be choked with floating débris, and are subject to frequent changes in the height of water in the dam, requiring attention to open gates to suit the height. The Hockin pass being fed from under the surface is not liable to be choked, and is always supplied with a sufficient quantity of water. As a matter of fact, it has been found that the quantity of water vented by this fish-way is so little that its loss is not felt by the mill-owner. The Department of Fisheries have caused several of these fish-ways to be built, the one in Cumminger's dam, Melrose, Guysboro, being the first or experimental pass. The fishery officer in charge, Thomas McKeen, says: "I regard this as a perfect fish-way, almost equal to the natural stream." One has been put in the dam at Tidnish, Cumberland County, known as Doyle's. The owner of the dam says the fish-way is a great success and has met with general approval. We have examined an excellent working model, and were struck with the simplicity and apparent efficiency of the invention. It may be explained that the cut is only for the purpose of illustrating the principle. Fish-ways are set within the dam with the outlet into the river below.

NOTE.—Plates of Hockin's fish-way will be found at pape 16 of part I of the supplement to the report of the Department of Fisheries.

9.—RESULTS FROM ARTIFICIAL FISH CULTURE.

(From Officer Sheasgreen's Report, with evidences of successes of Salmon Culture from the Miramichi River Hatchery.)

In order to show that this institution is regarded as a benefit by all the fish dealers, and by the greater part of the net fishermen themselves, who were at one time the most sceptical, I will submit the following opinion expressed by these men:

John Betts, Esq., a fish dealer and shipper at Derby, South-West Miramichi, who owns and controls several sets of nets on that branch of the river, says:—

"I am a firm believer in the method of breeding fish by artificial means. I have now been in the salmon fishery business for quite a number of years, and I maintain, through my experience, that artificial breeding for the past eight years has been the means of sustaining the life in our fishing industry on the Miramichi. It is my belief that the theory which some advance, viz., that the different runs of fish which enter our river belong to diffrent species is sheer nonsense. It is certain that we have different runs of fish during the autumn, but all belong to the one species, for where is the person who can state that ever a bright salmon was met with during the spawning season. The catch of fish on this river during the past three or four seasons does not show the slightest signs of decreasing, which, considering the enormous strain that is year by year put upon our waters, speaks very favourably for artificial breeding, as any sane man who is acquainted with the habits of parent salmon when depositing their ova cannot maintain that it is by natural means only the enormous demand is year after year supplied."

The Honourable Michael Adams, one of our best fly-fishermen, says: "Salmon were plentiful this season. If it were not for the benefits derived from the fish hatchery the salmon would now be nearly exterminated in our streams."

Jared Tozer, Esq., of the firm of Tozer & McDonald, fish dealers, says: "If it were not for the large numbers of fry that are yearly planted in our rivers from the hatchery the supply of fish would now be nearly exhausted. The catch of salmon by our nets this past season was good."

John McColm, another fisherman and dealer of North Esk on the North-West Miramichi, says: "Without the assistance received from the successful working of the salmon hatchery which the Government has placed upon our river salmon fishing would have been a total failure long before this time, instead of which we find that this industry is as remunerative as it was twenty years ago. At that time not one-fourth the nets and traps were in use as at the present day, still, the average number of fish taken by each net is greater, althougth the lower part of the river and bay is literally blocked with netting. Artificial breeding is the only means of supplying the demand that is made upon these rivers every season."

John Fergus, fly-fisherman, says: "Artificial breeding of salmon is a great benefit towards keeping up the supply of this important fish."

Park Gillis, a tide-head fisherman, says: "Artificial fish hatching is beyond any doubt the means of keeping up the supply. The catch of salmon in this vicinity is good each season; and when it is considered how the river is obstructed with nets along the lower parts, one would think it almost impossible for fish to reach this point at all. This shows that they must be plentiful in the river."

Many more opinions similiar to the above could be here inserted but as they all agree in saying artificial hatching is a benefit, and that salmon are plentiful, it is useless to do so. It will be noticed that John Bells, Esq., comments upon the theory advanced by some concerning the different "runs" of fish. He therein contradicts the statements of some persons, who cannot deny but that a large number of fry are annually turned out from this hatchery, but who still circulate these statements simply to injure the reputation of the institution among the unthinking fishermen. However, in a very short time all these misleading theories must fall to the ground, as the good results are too evident to be denied by any fair-minded man. The animosity and ill-feeling which extended against establishments of this kind when first instituted have gradually worn away, until at the present time, only the dissenting voices of a few old sceptics, who will never be converted to any modern idea, are to be heard; but the great majority of the fishermen, fish-dealers and others interested in the fishing business are in favour of the artificial work, plainly seeing that it is impossible for the natural means to keep up the supply with the demands now made upon it.

In order to show what a large number of salmon are taken in this river during one season, let us take Mr. Jared Tozer's nets for example—the north four sets in this vicinity, from which he has taken over 1,000 salmon. This number of nets occupy about two miles of the river. It shows an average of 250 fish to each net. It must be borne in mind that these are short river sets. What an enormous quantity of fish must be taken in the lower 30 miles of the river and bay, where the nets are twice and sometimes nearly three times as long and where nearly double the number of fish will be taken from each net; and still after all this destruction the fish are very plentiful in the upper parts of the river, where fly fishing was also unequalled during the past season. This certainly shows that salmon are abundant in these waters, and points most conclusively to the fact that artificial breeding is the remedy which has restored the almost depleted state of the waters of this river, in which they were a few years ago, and should place the great benefits which are already derived from this institution beyond doubt in the minds of thinking men.

"St. John, N.B., 10th December, 1890.

SUCCESSFUL RESULTS OF TRANSPLANTING RESTIGOUCHE SALMON FRY INTO THE NIPISIQUIT AND MIRAMICHI RIVERS:

"Alexander Mowat, Esq.,
"Officer in charge Restigouche Hatchery,
"Campbellton, N.B.

"Dear Sir,—In reply to your favor of the 8th inst., enquiring 'If you have received any benefit from the planting of Restigouche fry in your river for the past number of years?' I have to state, that since the planting of Restigouche fry in the Nepisiquit River, in 1883, I have on several occasions observed that a very considerable number of the grilse were undoubtedly of the Restigouche kind, and distinct from the native Nepisiquit grilse; and I have, as a consequence, expected them to be followed in due season by a large number of salmon of the Restigouche type. In this expectation I have been disappointed, having only observed a small number of the salmon that were not of the true Nepisiquit type. I attribute the cause of the absence of a fair return to the Nepisiquit of full grown salmon from the planting of the Restigouche fry, to the fact that the fish, being large, are impounded in the traps, pounds and bag-nets so extensively used down the coast; while some of the smaller Nepisiquit salmon get through the nets and come on to the river. When a Restigouche salmon bound for the Nepisiquit gets there it is early in the season,

before the salmon beach nets are set or when they are disordered by rough weather.

"This year, early in the season, I, and my friend fishing with me, killed six large Restigouche salmon at the Paveneau Falls of the Nepisiquit, but saw none later on.

I may here mention that except as provided in 1883, I have always been opposed to the manner in which the fry have been planted, for lack of proper facilities for wide distribution of the contents of each can of the young fish in well chosen parts of the river, instead of being dumped from the contents of the cans '*en masse*,' cart load after cart load, where the highway chanced to come near the river.

"I am assured that the gentleman riparian owners, and lessees of the fly fishing of the Nepisiquit River, will fully contribute towards the cost of any well defined and practical plan for the reception, detention and feeding of the young fry through the first season, until they can better take care of themselves.

"Your's truly,
"J. DE WOLFE SPURR."

(*From Officer Alexander Mowat's Report.*)

CAMP ADAMS, NEWCASTLE, N.B.,
MAIN NORTH-WEST, 2nd July, 1890.

MY DEAR MR. MOWAT,—Thanks. Your young salmon fry arrived in fine condition and were carefully placed in pools. We are experiencing the results this season. Already we have captured seven of your fish 17-18 lbs., and yesterday one by Mr. Brown, of Colorado, 23 lbs.—the largest fish yet caught at Camp Adams. This person was more than rejoiced, and carries him home as a trophy of victory. I wonder how long it would have taken to convince certain sceptics that we could solve this problem in so short a time. Our catch since 19th, June to date, 33 salmon, 32 trout. Touching the latter, we only count trout weighing over 3 lbs.

Your most respectfully,
M. ADAMS.

THE SUCCESFUL STOCKING OF THE HUDSON RIVER WITH "SALMO SALAR," WHERE THEY HAVE NOT BEEN KNOWN FOR THE PAST CENTURY.

The "Forest and Stream."

"Salmon in the Hudson River had been noted by scores this season. A fish-way have been put into the the dam, and the fish are going over that obstruction in large numbers. The stocking of the Hudson with salmon may now be regarded as an established fact, or at least as a enterprise for which success can with excellent reason be promised. There are other dams, and falls yet to be provided for with fish-ways, and now that the above results are shown it would be only folly to postpone the task. The Hudson as a salmon rever is destined to be famous."

From "Fishing and Shooting."

"The idea of stocking the Hudson River with salmon originated with Mr. Fred Mather, who made the suggestion to the late Prof. Baird, who was then United States Fish Commissioner, and the first eggs were hatched and fry planted in 1882. The State made an appropriation for building fish'ways with dams at Mechanicsville and Fort Miller, and these fish-ways are being built. The following is related with regard to salmon in the Hudson in July, 1890:—

"The gates of the Hudson River Power and Pulp Company were opened to drain down the water, so that it would not flow over the dam during the progress of putting in a fish-way in the 16-foot stone dam across the Hudson River, and over one hundred salmon were counted in the shoal water thus created at its base as they retreated back into greater depths. They were from 1 to 3 feet in length, and

probably averaged from 5 to 8 pounds in weight. The largest salmon caught here this season by angling measured 30½ inches, and weighed 22 lbs. 7 ozs. The fish-way is now under construction; when completed it will allow the salmon to pass the river to the shoals and tributaries they seek for spawning purposes. * * * These fish are all the results from the placing of salmon fry on the Hudson, commenced eight years ago by Col. Fred. Mather, from the United States Hatchery, Cold Springs; L. I., at the request of N. Cheney, Esq., angling editor of *Shooting and Fishing Journal.*

RESULTS OF ARTIFICIAL WHITE FISH CULTURE.

(*From the Report of the State Commissioners of Fisheries for Pennsylvania, U.S.A.*)

The people realize that fish propagation is no longer an experiment. Hundreds of depleted trout streams now restored to good condition and filled with fish attest the success of restocking.

The increase in the catch of shad in the two great rivers of the commonwealth, the Susquhanna and Delaware, bears witness to the beneficial results of the artificial propagation of this delicious fish, and indicates a future plentiful supply that will cheapen its price to all.

Nor must we forget the wonderful increase in the catch of white fish in Lake Erie, where as late as the year 1885, the supply was so nearly exhausted that the fishermen most largely engaged hesitated to embark in an enterprise that promised but scant and profitless returns. This result is directly traceable to the great plants of fry in that Lake by the hatcheries of Pennsylvania and those of the neighbouring States bordering on the lake.

The yield of white fish in Lake Erie during the past season has been greater than the yield of any season for the past twenty years, and larger than the combined catch of all the other great lakes, and brought to our city of Erie alone a return of over three hundred thousand dollars.

Fourteen million six hundred thousand (14,600,000) white fish fry, and all distributed in good condition, from two to six miles from the shore in Lake Erie. The white fish hatcheries established by the States of Michigan, Ohio and Pennsylvania, with that of the United States Commission, have effected a revolution in the fishing industries of this lake. It will be noticed that the catch of whitefish was very largely in excess of the catch of 1886, which only amounted to 61,500 pounds. as stated in the last biennial report of the Commission. The catch of 1888 amounted to 2,200,000 pounds.

NOTE.—By Mr. Wilmot—It may be here stated that the year in which, the 14,600,000 fry were put out from the Erie hatchery, 56,000,000 whitefish fry were put in the waters of Lake Erie from the Canadian hatchery at Sandwich, Ont., and that previous to that year 248,650,000 fry were also planted in the waters of Lake Erie from the Canadian nursery, and if the output of the years since be added, there will be shown a grand total of 377,775,000 whitefish fry turned out from this one Canadian hatchery.

The above report for the year 1890 is respectfully submitted.

SAMUEL WILMOT,

Superintendent of Fish Culture for Canada.

FISH CULTURE
1890.

APPENDICES.

REPORTS FROM THE SEVERAL OFFICERS IN CHARGE OF FISH-BREEDING ESTABLISHMENTS IN THE SEVERAL PROVINCES OF CANADA FOR 1890.

1.—FRASER RIVER HATCHERY.

PROVINCE OF BRITISH COLUMBIA.

REPORT OF THE OFFICER IN CHARGE OF THE FRASER RIVER HATCHERY FOR 1890.

I have the honour to submit my seventh annual report of this hatchery, together with a statement of the fry distributed and eggs collected in 1890.

From the supply of eggs collected in 1889, consisting of 9,233,000, the following numbers of fry and semi hatched ova were distributed on the dates and at the places below named:—

December 17, 1889,—Eyed ova, Nanaimo River, Vancouver's Island, near waggon bridge	500,000
December 25, 1889,—Cowichan River, above railroad bridge	500,000
February 4 1890,—Sent to experimental hatchery, Ottawa	100,000
March 5, 1890,—Fry in Pitt Lake, half-way up north side	800,000
March 27, 1890,—Coquitlam River, below C. P. R. bridge	320,000
March 31, 1890,—Pitt River, head of lake	480,000
April 7, 1890,—Stave River, 1½ miles up	640,000
do 9, 1890,—Harrison River, at foot of rapids	1,040,000
do 11, 1890— do do	1,120,000
do 17, 1890—Nicomekle River, Surroy	60,000
do 19, 1890—Pitt Lake, half-way up on south side,	570,000
do 21, 1890—Sumas River, near the mouth	510,000
Total	6,640,000

All of the above were obtained from fish which were caught in traps at the mouth of Morris Creek, where it flows into the Morris Lake.

There were not any eggs or fry received here from any other hatchery in the Dominion; but 100,000 eggs of the (O. Nerka) "Suckeye" were sent on the 4th of February to the experimental hatchery at Ottawa, which I learn reached in good condition.

The ova which supplied the above number of fry were all obtained from one species (O. Nerka) or "Suckeye," which are the principal commercial fish now caught in the waters of British Columbia.

Capture of Parent Fish and Collection of Ova.

There was no memorandum kept of the number of fish caught in the trap or with the drift nets this season, or of those that were stripped; but, as usual, the number was very large.

It is almost impossible to keep a record of the small salmon passing through the trap without a salmon register; And if the Department constructs the new pen which I have suggested, I would recommend having a register put in it.

Owing to the lateness of commencing operations this season the majority of the "Suckeye" salmon had ascended the Morris Creek before we could set our traps, and a few days after we got them in an exceptionally heavy of rain commenced, which lasted for ten days, raising the stream, overflowing its banks and carrying with it large quantities of logs and rubbish, that tore away the pens and allowed all the fish that had been captured to escape. From this misfortune, therefore, we only secured 1,000,000 eggs, where in previous seasons we obtained our full supply.

As the best of the season was then passed, and the fish had all gone out of the lake into the mountain streams beyond our reach, we had to resort to drift-net fishing on the Harrison River rapids to secure a supply, which was found to be a slow and expensive method. The fish captured with the gill-nets were unsatisfactory, as many of the females were found to be spent, or partially so, whilst others had to be kept for ten or fifteen days before they matured, during which time a large number sickened and died, owing to the rough method of capture by gill-nets and confinement in the retaining pens. We left the hatchery, to commence spawning operations, on the 10th of October, and finished on the 18th of November, securing in all 3,861,000 eggs, all of the Nerka or "Suckeye" species.

Condition of the Hatchery.

The hatchery is in good condition, the eggs are doing much better than in previous seasons, the rate of mortality among the ova is much less, and they are all looking very healthy. Upon their arrival at the hatchery they were immediately put in the wire hatching baskets, and distributed thinly, so that the supply would extend over the entire building. This, together with the careful stripping of fish at the spawning grounds, which was done entirely by myself and only one assistant, and by increasing the supply of water by the erection of a new flume, has been the principal cause of the present success.

Repairs.

The hatchery should have an entire coat of paint outside, and the walls whitewashed in the hatching room. The walls of the dwelling portion should be painted and a new kitchen floor laid. The total cost would be about $300.

I think it inadvisable to expend more money to increase the capacity of the present hatchery, as I am satisfied that in a very short time the Province will require another and much larger hatchery, with a capacity of putting out 25,000,000 of fry annually, in order to replenish the Fraser and other waters, which are bound in the near future to be reduced in their salmon yield, on account of the enormous quantity which are being caught each season.

Such a hatchery could be now built on the Morris Creek on Harrison River, with but little more expense than for the erection of the present one six years ago.

The good result from the present hatchery has now been clearly proven from the past two seasons' enormous runs of fish in the Fraser River.

The small streams around the Harrison, and other places where the fry have been distributed, were quite as thickly crowded with salmon as last year, while the fishery guardians and others on the Nanaimo and Cowichan Rivers inform me that the "Suckeye" salmon are appearing each season in increasing numbers.

I have the honour to be, Sir,

Your obedient servant,

THOS. MOWAT,

Officer in Charge.

2.—SYDNEY HATCHERY.

PROVINCE OF NOVA SCOTIA.

REPORT OF THE OFFICER IN CHARGE OF THE SYDNEY HATCHERY FOR 1890.

SIR,—I have the honour to submit herewith my annual report upon the work done at this hatchery during the past year.

Distribution of Fry.

As stated in former reports, I laid down in the hatching troughs 2,540,000 ova, from which 1,953,000 fry were hatched and distributed in the following streams, viz. :—

Margaree River (Inverness Co.)	200,000
Benacadia do (Cape Breton Co.)	50,000
Sydney do do	350,000
Ball's Creek do	100,000
Trout Brook do	150,000
Black do do	100,000
Grand Lake do	100,000
Estrasonia River do	70,000
Salmon do do	100,000
George's do do	100,000
Leitche's Creek do	50,000
McLean's Brook do	75,000
Rory Brack's Brook do	75,000
Baddeck River (Victoria Co.)	150,000
Middle do do	150,000
Grand do (Richmond Co.)	50,000
Tier do do	50,000
Hatchery Brook (Cape Breton Co.)	33,000
Total	1,953,000

I regret not having been able to attend to the application for fry for the Mabou River. The application came too late, and to attend to it would upset all other arrangements. The application called for 1,000,000 fry, which was more than half my supply. I presume it meant 100,000, which I think would be sufficient for that river. Hereafter, I will make an allowance for that river of 50,000 or 100,000 fry.

Collecting Parent Salmon and Eggs.

This fall I succeeded in securing a fair supply of parent salmon. These were kept in good condition at the several fishing stations till ready to spawn. The following table will show the number of salmon caught, and the streams in which they were taken :—

Name of River.	Females.	Males.	Total.	No. of Ova.
Margaree	20	10	30	100,000
Margaree Big Inlet	1	2	3	20,000
Lower Middle River	14	16	30	60,000
Upper Middle River	127	103	230	600,000
Sydney River	53	39	92	318,000
Salmon River	27	25	52	120,000
Total	342	195	437	1,218,000

This was a most unfavourable season for the catching of parent fish. In the early part of the season the rivers were very low, and salmon could not ascend, although they were reported as unusually plentiful in the tidal waters during the month of September. Then, during the month of October it rained heavily and continuously, so that it was impossible to work the nets. This is particularly true of the Margaree River. Salmon were reported very plenty in the Margaree, but could not be taken. In the Upper Middle River, where nets could be worked, some days the catch was above the average. The few days that nets could be handled in the Sydney River the catch was better than ever before. In all the rivers operated on the salmon were more plentiful than for some years back, but for the reason of the heavy rains we could not catch them.

Condition of the Hatchery.

The present condition of the hatchery is good. This fall the floor and bottom work of the building was found to be in such bad condition that it could not be repaired. All the bottom work had to be taken out and replaced by new material, which necessitated considerable labour and expense. New sills, trimmers, joice and floor had to be put in; also, the posts were considerably decayed, and had to be cut, up as high as the window sills. On one side new rough boards had to be put on outside and inside 3 feet high, and the same shingled on the outside and the inside wainscotted. The building is good now for eight or ten years more without any further repairs. It will, however, require painting, which will cost about $80 for the outside and $40 for the hatching room inside.

Increase of Salmon.

The beneficial results arising from the operations of this hatchery are becoming more apparent every year. The early run of salmon in the Mira River this season was far above the average. The few fishermen there, though poorly equipped, did better than for years past. Mr. Robertson, while engaged in building a bridge on the Sydney River, reports having seen more salmon sporting around there than ever before; so much so, he says, that some of the inhabitants decided to furnish themselves with nets for the coming season. Mr. Grantymire, of Little Bras d'Or River, reports having seen shoals of salmon of a very small and uniform size, and in numbers never seen there before. Mr. George Munroe reports the same of the Margaree River, having seen them on several occasions about the Margaree Harbour bridge. Mr. John Brown, at Big Pond Cranberry (entrance of the Sydney River) took 75 salmon in three days, all weighing from 9 to 11 lbs., and in the one week scored 100. I am informed that the Mira fishermen are very poorly equipped, some of them fishing with only the half of an old net, none of them having anything like proper gear. This is true of many of our salmon fishermen, but I understand they are to prepare themselves better for the coming season. The work of this hatchery is only beginning to show itself. Some men are very slow in giving credit to an institution of this kind, especially when they look upon it as experimental. Most of these men never heard of fish culture till this establishment was built, and look upon it as robbing nature of its work.

Land-locked salmon could be very suitably planted in some of our lakes. There is a chain of lakes near Margaree, called Lake Law, which I think would be most suitable for them. Several gentlemen from the States, who are thoroughly acquainted with the habits and requirement of these fish, pronounce these lakes suitable. At present these lakes are practically useless, as far as yielding any kind of fish is concerned. If stocked with land-locked salmon they would become of great value.

I have the honour to be, Sir,

Your obedient servant,

C. A. FARQUHARSON.

Officer in Charge.

3.—BEDFORD HATCHERY.

PROVINCE OF NOVA SCOTIA.

REPORT OF THE OFFICER IN CHARGE OF THE BEDFORD HATCHERY.

SIR,—I have the honour to transmit my report upon the operations at this hatchery during the past year.

I am pleased to be able to inform you that the most gratifying results were obtained in hatching the large stock of ova laid down in the troughs of this institution last season. The trouble experienced in previous years in hatching the salmon trout ova was not met with, and not only here at the central hatchery, but at all the outlying auxiliary hatcheries, the proportions hatched were very satisfactory indeed.

As stated in my last report, the number of salmon ova obtained last season was 2,000,000. In March last I received from the Ontario hatcheries a further supply of 400,000 salmon trout and 2,000,000 whitefish ova. Shortly after their arrival here mild and open weather set in, and as evidences of hatching began to appear, I deemed it advisable to convey those intended for remote points to the smaller hatcheries as early as possible.

This work I commenced on the 15th of March, and the semi-hatched ova were distributed amongst these hatcheries, as follows:—

	Salmon Trout.	Salmon.
Tusket Hatchery	40,000	70,000
Kempt do	50,000	150,000
Shelburne do	50,000	90,000
Lochaber do	40,000	110,000
Kentville do	60,000	.....
Sheet Harbor Hatchery	.....	120,000

making a total of 240,000 salmon trout and 580,000 salmon ova disposed of previous to the first of April.

As stated above, the most satisfactory success attended the hatching of the ova deposited in these hatcheries—with one exception, that at Shelburne, where considerable loss took place.

After the distribution of the semi-hatched ova, as above, I had still left 130,000 salmon trout, 900,000 salmon and 2,000,000 whitefish ova. The latter hatched early, and were distributed among lakes adjacent to the hatchery, as follows:—

Round Hill Lakes,	Annapolis County		250,000
Aylesford do	Kings do		250,000
Grand do	Halifax do		500,000
Sandy do	do do		500,000
Williams' do	do do		500,000

making a total of 2,000,000 of these young fish planted in lakes considered most favourable for their growth.

The remaining stock of salmon and salmon trout were successfully hatched and planted in the rivers of the central portions of this Province, as per following schedule:—

Musquodoboit River,	Halifax County		40,000
Nine Mile do	do do		40,000
Little Salmon do	do do		40,000
Pennant do	do do		40,000
Salmon do	Colchester do		40,000
Stewiacke do	do do		40,000
Wallace do	Cumberland County		80,000
Philip do	do	do	80,000
West do	Pictou	do	40,000
East do	do	do	40,000

Middle	River, Pictou	County		40,000
Gaspereau	do King's	do		40,000
Cornwallis	do do	do		40,000
La Have	do Lunenburg	do		40,000
Gold	do do	do		20,000
Middle	do do	do		20,000
East	do do	do		40,000
Annapolis	do Annapolis	do		40,000
Round Hill	do do	do		20,000
Bear	do Digby	do		40,000
Kennitcook	do Hants	do		40,000
Tantramar	do Westmoreland	do	N. B.	40,000
	Total			900,000

Total Distribution from Bedford Hatchery, 1890.

Salmon fry				900,000
Salmon trout fry				130,000
Whitefish fry				2,000,000

		Sal. Trout.	Salmon.	
Eyed ova sent to	Kempt	50,000	150,000	200,000
do do	Shelburne	50,000	90,000	140,000
do do	Tusket	40,000	70,000	110,000
do do	Lochaber	40,000	150,000	190,000
do do	Kentville	60,000		60,000
do do	Sheet Harbor		120,000	120,000
	Grand total			3,850,000

Throughout the whole of this distribution the most perfect success was met with, no loss whatever having occurred, notwithstanding, in some instances, long and tedious journeys over abominable roads were undertaken in order to reach the most suitable points on the rivers at which to deposit the young fry.

It will be seen that this distribution extended over the whole of this Province proper, and that every river considered suitable for stocking and could be reached with safety to the young fry received its quota.

The subsidiary hatcheries, of which there are now six in this Province, enable me to reach the most remote points, and many excellent rivers that formerly were beyond my scope are now receiving substantial aid from these points. Further, numerous lakes, quite in the interior, and far removed from all railway or steam communication, are being stocked with large numbers of salmon trout and whitefish. The wisdom of this attempt on the part of your Department to introduce these fish into the lakes of this Province, with the view of endeavouring to create an extensive inland fishery, is being gratefully received and acknowledged by all who are at all interested, or give the matter due consideration; and their confidence in the results of the experiment is shown by the increasing demands for these fish with which to stock the lakes in different localities. Fortunately, these demands can be complied with, as the full hatching capacity of this hatchery, or of the auxiliary hatcheries, has not yet been reached, and without reducing the plantings in those lakes already upon my list (which is not at all advisable), other waters can be embraced, by the addition of more small hatcheries, and the receipt of larger shipments of these ova from the Ontario nurseries in future.

The erection of some additional small hatcheries in the counties of Lunenburg, Guysboro', Digby, Annapolis, and the erection of a more permanent one at Shelburne,

in lieu of the temporary appliance used there last season, would extend the field of operations from this hatchery very materially, and would enable me to reach some very fine streams and lakes in those counties.

I may be permitted to say that the work of artificial fish-culture, as prosecuted in this Province, and although very satisfactory results have already been produced by it, is on too limited a scale to sufficiently affect and further materially the increase of fish.

There can be no doubt existing in the mind of any unprejudiced person who has studied the salmon fishery statistics for the last twenty years that our present supply of salmon is largely maintained through artificial culture. The continual decline in that fishery from 1870 to 1881 shows that unaided the natural production of salmon was insufficient to prevent the continuous decline in the annual catch, and it is also apparent that had no means been introduced to augment the production of young fry that this gradual depletion would have continued until the supply was entirely exhausted.

The beneficial effects of fish-culture began to appear in 1882, and, as is shown by the returns, a constantly increasing catch is reported up to 1887, since which date no further increase has taken place. This may be considered as an evidence that, with the present hatching and producing capacity of the appliances now in use in this Province, the full capacity of our hatchery has been reached, and that without additional efforts are put forth and more hatcheries erected no particular increase in the present annual catch can be expected.

Collection of Ova.

In undertaking this part of my work this season, and guided by my experience of past years, I decided to utilize the Musquodoboit River, in Halifax County, and the West River, in Pictou County, and applied to your Department for permission to do so. On the Musquodoboit River I had in part the necessary appliances for prosecuting the work, and my experience of past years on that stream led me to expect a good catch of spawning fish; but unfortunately for me, heavy freshets set in in August, and enabled the greater portion of the run to enter the river at that time, and previous to my commencing operations.

It has been my practice to commence fishing on this stream each year on or about the 1st of September, and when favourable conditions were met with large catches were made. This season the conditions were unfavourable, and resulted in securing but 57 salmon, as against a catch last year of 270.

On the West River, also, unfavourable conditions were experienced, and the catch was but 10 fish, as against 67 last year.

An attempt was made to secure a portion of my supply from Wallace River, and very good success was obtained in securing the spawning fish; but unfortunately, through the acts of some interested persons living upon this river, I was not permitted to collect the ova. The fish were caught at and below Rhinduss' dam, which crosses this river at the head of tide, and were retained in a tank or creel moored in the pond. In this tank were confined 54 of the largest salmon I have ever taken in this Province, and from which I expected to secure 500,000 ova. The particulars of the raid made upon the works, and the destruction of the appliances, and carrying away of the fish, having been already reported to the Department, it will be unnecessary to repeat them here. The loss of these fish occurred at the end of the fishing season, and I was consequently unable to make good this loss by further fishing.

The result of my efforts to obtain a stock of ova for this season's operations was most unsatisfactory and discouraging, and leads me to the conclusion that some more certain means must be adopted in future for this purpose. Whatever system may be introduced, its most essential principle must be the prosecution of the work on such a basis that it will no longer be subject to the ignorant prejudices and depredations of the fishermen living along the streams upon which we operate. But two plans present themselves to me at present—either buy the fish from the net

fishermen during the lawful fishing season, and construct salt-water ponds in which to confine them until ready to spawn, or locate the works on streams upon which there are no inhabitants above the head of tide.

As this question will be the subject of correspondence with your Department during the present season, it will be unnecessary to further allude to it now. The number of fish secured and ova obtained was as follows:—

					Ova Obtained.
Musquodoboit River,	23	males,	34	females	340,000
West River,	4	do	6	do	60,000
Wallace River,	21	do	33	do	Nil.

making a total of 48 males and 73 females, from which I obtained 400,000 ova. This constitutes the full extent of the stock, and is not one-fourth of the capacity of the hatching troughs. I trust the deficiency may be made up by the receipt of a large supply of salmon trout and whitefish from the Ontario hatcheries.

Water Supply.

Since the change in the arrangement of the hatchery troughs in this hatchery and the substitution of 32 troughs placed transversely in the building for the 14 troughs placed lengthwise, the water supply has been quite inadequate for the hatching and nursing of a large stock of ova. Representations to this effect having been made to your Department, I was permitted during the past season to replace the old 6-inch pipe by one of 8-inch, and now have an abundant supply of water.

Repairs.

Some repairs of a light extent will be required next season. Some leaks in the roof are beginning to show themselves, and should be attended to at once, either by painting the shingles with two coats of some mineral paint, or patching. Painting, I think, is preferable to patching, as the paint will preserve the shingles, and it is said it will make them last ten or twelve years longer. New eave-troughs will also be required, the old wooden ones being now very much decayed and broken away. Some decay is taking place in the foundation of the partition separating the hatching room from the dwelling rooms, and should be attended to next summer. These repairs, with painting the interior of the hatching room, is about all the expenditure required this year.

I have the honour to be, Sir,
Your obedient servant,
A. B. WILMOT.
Officer in Charge.

Dunk River hatchery, P. E. Island, was not in operation in 1890.

5.—ST. JOHN RIVER HATCHERY.

PROVINCE OF NEW BRUNSWICK.

REPORT OF THE OFFICER IN CHARGE OF THE ST. JOHN RIVER HATCHERY, 1890.

SIR,—I have the honour to transmit herewith my report in connection with the operations at the St. John River hatchery for the year 1890.

In the fall of 1889 there were no native fish ova laid down in this house, as the attempt to capture parent salmon on the Tobique River proved a complete failure; neither has there been any fish eggs laid down this season. No effort was made to gather them, although there was a fair prospect of getting quite a number of fish, if it had been so desired. The run of salmon on the Tobique was fairly good; the lessees had them well protected; ten special guardians were employed all summer,

besides a head warden, who looked strictly after them, in order to guard the river day and night. By this means a number of salmon reached the spawning grounds—but under the most favourable circumstances the chances of getting a supply of salmon eggs on the Tobique or Serpentine Rivers to stock this house are very uncertain and unreliable.

In the month of March last I received from the Newcastle and Sandwich hatcheries, Ontario, per Mr. Charles Wilmot, a consignment of whitefish and salmon trout eggs in a semi hatched state, comprising about 1,500,000 salmon trout, 2,000,000 whitefish and 12,000 speckled trout; and later in the month I received 500,000 salmon eggs from the Restigouche, in charge of Mr. Alexander Mowat. They were all in good condition when received, and continued to do well during the remainder of the hatching season, and a fair percentage of young fry were turned out last spring and summer; a small loss took place with the salmon trout. The loss of salmon, and whitefish, and speckled trout, were, comparatively speaking, very light. On the 9th of April last I commenced to distribute the whitefish, and on the 24th of July we finished putting out the salmon and salmon trout. It was a long and tedious operation, requiring care and diligence; but I am able to inform you that the work was done in a good and satisfactory manner, as the subjoined letters will show. Below is a tabulated statement of the several kinds of fish distributed, with the names of the different lakes, rivers, and streams, their locality, and the quantity planted in each, viz.:—

Whitefish.

Magaguadavic Lake, York Co	700,000
Harvey Lake, do	700,000
Oromocto Lake, do	300,000
Lakeville, Carleton Co	300,000
	2,000,000

Salmon Trout Fry.

Williamstown Lake, Carleton Co	60,000
Jones Lake, Carleton County	120,000
Oromocto Lake, York do	120,000
Harvey Lake, do do	120,000
Magaguadavic Lake, York County	60,000
Chamcook Lake, Charlotte do	60,000
Foster Lake, do do	60,000
Meadow Lake, Victoria do	60,000
Portage Lake, do do	60,000
Long Lake, do do	60,000
Frasers Pond, do do	20,000
Byrams Pond, do do	40,000
Several private parties, Victoria County	60,000
Turned out at Hatchery	100,000
	1,000,000

Sea Salmon Fry.

St. Croix River, Charlotte County	132,000
Toby Guzzle, do do	72,000
Lake Utopea, do do	36,000
Magaguadavic River, York do	32,000
Tobique River, Victoria do	90,000
Salmon River do do	60,000
St. John River do do	60,000
	482,000

Speckled Trout Fry.

Skiff Lake, York County	6,000
Toby Guzzle do	4,000
	10,000

Recapitulation.

Whitefish planted the present year	2,000,000
Sea salmon do do	482,000
Salmon trout do do	1,000,000
Speckled trout do do	10,000
Total number	3,492,000

In making the above distribution I took a different method of transporting them from the nursery from the one I fomerly pursued. Heretofore, we would start with eight or ten cans of fry at one time. This brought us in continual contact with the baggage-masters on the trains, on account of the great space we occupied, and then we could only make one trip every two or three days. The past season I sent one of my sons with six cans every morning, which was more acceptable to the train men; consequently, we got along more amicably, and by traveling in the night each messenger could start every second morning. By this plan six cans of fry were sent away every morning. This arrangement worked admirably, and gave one of us the opportunity of being daily in attendance to look after the hatchery and young fish.

Repairs to Hatchery.

Before I got the fry all out the floor of the hatching room began to break down, and I found it necessary to secure the services of a carpenter to examine the floor and report what repairs he considered necessary to put the house in proper order. I reported to the Superintendent of Fish Culture the result of the examination, specifying the repairs required and the quantity of lumber needed, when I got orders to ask for tender. I did so, and the contract was awarded to Albert Dixon, who did the work to my entire satisfaction. Beyond this contract, other repairs were made. There are several other repairs that will have to be made next season, such as painting, whitewashing, and some little plastering, especially in the hatching room, office and hall. In all other respects the house is in good order.

It is very much to be regretted that the Department cannot arrive at some definite conclusion whereby this nursery can be supplied with salmon eggs every autumn, without depending upon the other hatcheries for a supply every year, especially when the facilities this hatchery has for the work are so great. It is fully equipped with all the necessary apparatus, with a good supply of pure water the whole year round, and having easy access to and from it by a railway station almost at the door. The whitefish and salmon trout hatched here are beginning to show up in some of our waters; some very fine specimens have been taken from some of the lakes the past year. Quite a quantity of very nice whitefish were caught in the Oromocto Lake the past autumn; this kind of fish was never known to inhabit that lake before. The residents there are unanimous in their opinion that they are the result of the whitefish fry planted in the lake about three years ago. Some nice salmon trout were taken in Chamcook, Skiff and Williamstown lakes, and there can be no doubt but that these fish are abundant in several of these lakes where I planted them three or four years ago, but many of the lakes are controlled by clubs, or private owners, and they will not allow any person to fish therein except with the fly, and it is a well-known fact that this class of fish cannot be taken that way. Some

have been caught by other parties in a surreptitious manner, but they will not willingly give any information about them, at least not publicly. A few parties were prosecuted for poaching in Chamcook Lake the past season.

I have the honour to be, Sir,
Your obedient servant,
CHAS. McCLUSKEY,
Officer in Charge.

6.—MIRAMICHI HATCHERY.

PROVINCE OF NEW BRUNSWICK.

REPORT OF THE OFFICER IN CHARGE OF THE MIRAMICHI HATCHERY, 1890.

I beg herewith to submit my annual report upon the operations in connection with this establishment for the year 1890.

As shown by last year's report, there was laid down in the hatchery troughs, in the autumn of 1889, 1,100,000 salmon ova. The closest attention was given to these eggs during the period of hatching, and I am pleased to state that the best of success was met with during this time, as well as in the transportation of the fry to the different planting grounds upon the head waters of the Miramichi.

Distribution of Fry.

There were 1,022,000 healthy fry distributed as far up the following streams as possible, viz.:—

North-West Miramichi	400,000
Stony Brook	50,000
Little South-West Miramichi	300,000
Sevogle River	100,000
Main South-West River	150,000
Stewart's Brook	22,000
Total	1,022,000

In addition to these native fry, I received 40,000 eyed eggs from the Restigouche nursery. These were successfully hatched and planted in the North-West Miramichi and one of its small tributaries.

North-West Miramichi	40,000
Stony Brook	15,000
Total	40,000

This shows that the total number of salmon fry distributed from this hatchery in the spring of 1890 amounted to 1,062,000. The 25,000 Restigouche fry, along with 25,000 native, were planted a short distance above the falls on the North-West Miramichi, and at the Honourable Mr. Adam's fishing camp on the same stream, distant about 75 miles by the river from this nursery.

Repairs.

During the summer months all necessary repairing about the ponds, dams and buildings were completed, except the shingling of the roof of the hatchery, which was delayed until after the stock of ova was gathered. The total cost of shingling the roof amounted to about $106. The dams, ponds and buildings are now all in good

condition, and unless through an accident some unexpected expense is incurred, no further amount will be required during the coming year than may be necessary to carry on the ordinary routine work.

Collecting Eggs, 1890.

The work of collecting parent salmon was not as successful this season as the previous year. This was not due to any scarcity of fish, but on account of the prevailing high water the fishermen were unable to use their nets until very late in the season. Then, before it was possible to procure a sufficient number to fully supply the hatchery, the spawning season set in. The men were kept at work as long as there was the slightest hope of adding to the number, until the cold weather caused operations to be altogether suspended.

The total number of fish amounted to 195. These parent salmon were taken from three different branches of the Miramichi, viz.: North-West Miramichi, 73; South-West Miramichi, 80; Little South-West Miramichi, 42. The total number of females captured amounted to 111, the remaining 84 being males. If the water had not been so far above the usual height during nearly all the time fishing was practicable a far larger amount would have been taken, as the rivers were swarming with fish; but as it was almost impossible to use the nets, at least to any advantage, thousands upon thousands of parent fish passed up beyond our reach. The ova that these fish deposited are now nearly a total loss, as the beds upon which they were placed will have become almost completely bare, leaving the ova exposed to frosts, snow and ice. When salmon deposit their ova during a season that the streams are not above their usual height the ova will not be exposed to as much danger of being laid bare and destroyed after the heavy frosts sets in as it would be if the fish deposited the ova in the streams when they are far above their usual height, such as they were last season. Every one is aware that salmon naturally place their ova upon bars and gravelly shoals If the one-half of the fish that ascended these streams during last autumn deposited their ova upon bars and shoals at the height the water was at that time, millions upon millions of eggs are now a total loss.

The total number of eggs gathered from 111 females amounted to 810,000, showing an average of about 7,400 to each. Comparing the average number of eggs taken from each female during the last three years, it will be seen that the number increased from 5,530, in 1888, to 7,400 for the present. This, in my opinion, points to the conclusion that the fry which have been hatched here from the eggs of the Restigouche salmon, which are of a much larger family than the Miramichi salmon, are showing some good results, from the increasing numbers of the very much larger salmon which are now to be found in this river.

I have the honour to be, Sir,
Your obedient servant,
ISAAC SHEASGREEN,
Officer in Charge.

NOTE.—The portions of this officer's report, relating to the success of "Artificial Culture" will be found under that heading in the general report on Fish Culture, to which this report is appended.

7.—RESTIGOUCHE HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE RESTIGOUCHE HATCHERY, 1890.

SIR,—I have the honour herewith to submit my annual report in connection with the operations of the Restigouche hatchery for the past season.

As previously reported, 3,022,000 eggs were deposited in the hatchery in the fall of 1889, from which were successfully hatched and planted in the various waters, as follows:—

Kedgwick River	200,000
Main Restigouche, from Indian House to Kedgwick	400,000
Main River, from hatchery to Indian House	500,000
Upsalquitch River above the Great Falls	300,000
Matepedia River, including lake	490,000
Nepisiquit River, Bathurst	200,000
Middle do do	100,000
Miramichi do	70,000
Caraquet do	100,000
Jacquet do	5,000
Pond at hatchery	4,000
Total fry	2,396,000

The above numbers of fry were all planted in the various streams in a fine, healthy condition, with the exception of those deposited in the Middle River, Bathurst. A small loss occurred to this lot, owing to the train being several hours late. The fry were detained too long in the cans, and some of them were in a sickly condition when planted.

Independent of this number of fry, 500,000, semi-hatched or eyed eggs were transferred to St. John River hatchery 17th April, making a grand total of 2,869,000 fry and semi-hatched ova distributed from the Restigouche hatchery the past season; and I humbly beg to draw your Honour's attention to the small percentage of loss, 152,000, or about 5 per cent., from the handling and hatching of this large number of eggs, which must at once convince all unprejudiced persons of the benefit and utility of the artificial breeding of salmon in the Dominion, and more especially considering the authenticated statements that not more than 4 per cent. of the natural-laid ova reach maturity. I have overturned the salmon rids, both on the Restigouche, Prince Edward Island and St. John rivers, after the water has receded late in the fall and left the rids dry, and the ova to perish, and in all instances not more than one vitalized egg in fifty were found; whereas, by the artificial works 95 per cent. of living fish are turned into the streams, and 90 per cent. of the parent fish liberated, which otherwise would have been marketed and their product totally lost to the river.

Government Net at Island.

Owing to the unusual late spring and high water this net was not set out before the 12th June, by which time the major portion of the fish had entered and already passed up the river; therefore, the catch was much less than last season, being as follows:—

Net at Island	220
Mission Point	10
Pitt's Creek	30
Purchased from Mr. Adams	59
Total	319

Stripping began on the 20th October and continued till the 8th November; 307 fish were found in the reservoir, 175 females and 127 males, from which were collected 1,800,000 eggs. These were packed, as usual, in the trays, and conveyed to the hatchery by scow, and are now in fine condition, and a very successful hatch is anticipated. About a dozen fish died after they were placed in the reservoir, being injured by

escaping through the nets below. There were also a few fish tangled in the nets and drowned. These and all fish that died and were fit for food were sent to the dealers and credited to the Department.

The reason why the net fishermen do not furnish more salmon to us, although offering them full market value for them, is, that owi. g to the use of the small mesh net creating a wall, and the rush of water through the small meshes, the fish get scared and will not enter the traps; and consequently the netters find their catch 50 per cent. less when using the small mesh; therefore, they all have, excepting Mr. Adams, discontinued giving any more parent salmon.

The hatchery with all its appliances is working very satisfactory; all trays, tanks, troughs, fawcets, &c., &c., were varnished during the past summer, and were in a first-class condition for the reception of the ova in the fall; also, a new boat house, 12 x 30 feet, was erected at the east end of the hatchery. This will be used in general for boat and store house. A new floor was laid in the loft; a dozen new distributing cases were obtained; the old primary log hatchery having outlived its usefulness was taken down, and the material used for a bridge and other purposes on the public road. This old nursery has been one of the greatest factors in making the Restigouche River what it now is, namely, one of the finest salmon rivers on the continent of America.

Repairs to Hatchery for 1891.

The roof and outside of building is much in need of painting, as the first coat is entirely worn off; also, the inside plant, such as troughs, tank posts, &c., &c., should be painted, and the ceiling under the beams lathed and plastered, in order to make the house sufficiently warm and frost-proof, the cost of which would be about $200. Plant may be also required, such as fawcets and distributing cans.

The Retaining Pond at Hatchery.

This pond is only 40 by 60 feet, 2 feet deep, and was overflowed from the brook during a heavy snow freshet in the spring of 1889, and all the young fry put in the previous year were supposed to have escaped; but such was not the case, as quite a number of "parrs" were to be seen in it this summer, and when a fly was thrown into the pond a dozen or more would rush at it. I caught a few of those, and on examination found they were just about the size of the river "parrs." I am firmly of the opinion it would be a very unsafe and expensive undertaking to retain a large number of salmon fry through the winter season, where there is so much frost and floods to contend with. However, I may here mention that the Restigouche Salmon Club are anxious that something of this kind should be done, and talk of making the trial themslves; they have very suitable grounds on their property at Metapedia, and a pure stream of water to supply the ponds with, and if they feel inclined to construct them there till a year old, I would suggest that the Department supply the fry for that purpose.

Net at Mission Point.

As this net for taking parent fish has, comparatively speaking, proved a failure, I would suggest that it be discontinued, and the net located in some better place.

Government Net at Pitt's Creek.

Failing, as I have stated, to capture a sufficient quantity of fish in the Mission Point net, it was deemed advisable, as a trial, to set another net higher up on the river and nearer to the reservoir. This net was not set until the 18th of August. It has always been the opinion of old fishermen that fish do not enter the river after the above date, but between the 18th August and the 1st October some 30 fish were taken in this net. This trial has proved two very important points: first, that more or less salmon enter the river all the season throught, from 1st May to 1st October; second, that it is in every way a very suitable locality for catching parent

salmon and conveying them to the reservoir, as it is only two miles above the reservoir. I am pretty fully convinced that with the two Government nets we can generally rely on getting a good supply of fish for the hatchery.

Repairs to Nets and Reservoirs, 1891.

The nets will require repairing and dying, and perhaps another new set. The reservoir will require some new timber and cross-ties and new netting, and five or six hundred new stakes. The whole will probably cost $200.

Condition of River Catch of Fish with Fly and Nets for 1890.

The net fishery on the estuary and coast was not quite up to the average, although some large catches were made between Petit Rocher and Miscou; but why this falling off in the net fishery while the river was teeming with fish? The elements over which man has no control answers the question. One of the highest freshets ever known on the Restigouche prevailed, bringing down thousands of drift logs and débris of all kinds; this, combined with a heavy easterly storm, tore up the stake nets, overturned and displaced the trap nets on the coast, just at the time when the largest run of fish were entering the river; and while this destruction and loss in the estuary and on the coast was taking place the anglers were rejoicing and having one of the best fishing seasons ever known on the Restigouche, some of the angling parties killing as high as 100 fish in ten day, and eight or ten fish were often taken by one individual in a day. Mr. J. Mowat killed nine fish on a small pool at Deeside, the 5th June, where salmon were never thought of being fished for until very lately. Some 2,000 salmon were taken by anglers with the fly this season on the river. The guardians, lumbermen and all others acknowledge there never were seen so many fish in the Restigouche River as there were this season. Mr. A. Robertson, the Chief Guardian of the Restigouche Salmon Club, told me he went to the head of the Kedgewick River during the latter part of August, when the water was low and clear, and every pool was filled with salmon, and in places he had never seen a salmon before they could be counted in hundreds.

It may not be out of place in this report to give a few figures showing the increase and value of angling property and some of the prices paid during the last season. Some five miles on one side of the stream, near Indian House, brought $35,000 in cash; only half a mile on one side of the stream, near Upsalquitch, was sold for $18,000; eighty rods frontage on one side, near Metapedia, brought $2,000; forty rods, $1,800; sixty rods front, near Metapedia, $2,500. Four or five years ago very few of those places could be sold, or even leased—in fact, there was no fishing on them; but since then the river has become one continuous pool, so to speak; every inch of vacant water is largely sought after. Then why should not the hatchery and the many millions of fry that have been planted from it annually the last ten or twelve years be credited with at least a fair share of bringing about this most gratifying state of affairs?

To this I desire to give the testimony of a couple of the lessees* who have been receiving a supply of fry from the Restigouche hatchery for the stocking of the Miramichi and the Nepisiquet rivers. Referring to a paragraph in Mr. Spurr's letter, I beg to say canoes were used in the distribution of fry every year until last season, and no two cans were emptied in one place, but carefully-selected, moss-covered bottoms and grassy-banked pools were chosen, and the fry were distributed in various places throughout twenty miles of the river in fine condition. It was the lessees' own fault if there were no canoes; they were notified to send canoes, but did not do so.

In conclusion, I beg to say that every precaution is invariably taken, both in the hatchery and the distribution of the fry, and performed as economically as possible.

I have the honour to be, Sir,

Your obedient servant,

ALEX. MOWAT,

Officer in Charge.

* The letters referred to above will be found in this report under "Success of Fish Culture," page 41.

8.—GASPÉ HATCHERY.

Province of Quebec.

REPORT OF THE OFFICER IN CHARGE OF THE GASPÉ HATCHERY, 1890.

Sir,—I beg to submit the annual report of operations connected with the above hatchery during the past year.

Work in Dartmouth River was commenced on 19th May, when preparations were made for the summer. Scows and flats were repaired and other necessary work was carried out. The trays and troughs were varnished, and subsequently the interior of the hatchery was painted, cleansed and aired, and all other appliances fully prepared for the winter labours.

The sphere of our work embraces the three rivers—St. John, York and Dartmouth, all flowing into the basin south and west of Gaspé Bay. The following shows the number of young salmon bred and put out during the year.

St. John River		136,000
York River		100,000
Dartmouth River	Above the falls	400,000
	Below the falls	170,000
Total		806,000

Our operations are solely concerned with salmon, and all were liberated in excellent condition. The planting was commenced on 23rd June and completed on 22nd July, notwithstanding the fact that the majority of the Dartmouth fry had to be conveyed, at the cost of much labour, above the falls. This operation was ordered by the Superintendent. Though involving an expense beyond the previous outlay, it appears to be justified by its more effectual results.

The Department nets were set from 4th June to 29th August in the Dartmouth River, and captured 60 parent salmon. According to instructions, I purchased 23 more from William Stanley, at the current price of $2 each. When taken from the piers these 83 fish were found to include 33 males and 50 females. The spawning continued from 8th October to 2nd November, and the 50 females produced as follows:—

20	averaging	14,000	280,000
20	do	13,000	260,000
10	do	18,000	80,000
	Total		620,000

In September I received instructions to proceed to York River, in order to capture additional fish to stock our hatchery. Owing to the lateness of the season there was considerable scarcity, as salmon had nearly all passed above the Narrows. We succeeded, however in securing 25 females and 12 males. These produced:—

10	females, averaging	17,000	=	170,000
10	do do	16,000	=	160,000
5	do do	14,000	=	70,000
	Total			400,000

We thus obtained a total of 1,020,000 eggs from all the salmon in good condition which were placed in the hatchery. It will be observed from these figures that the York salmon were much more productive than those taken in the Dartmouth.

The hatchery itself is in first-class condition, but not having been painted for over twelve years, it is desirable that its extension should be done during the

ensuing year. The estimated cost of it is $30. The pond in connection with the hatchery requires a new railing to fence it in, as its present condition involves danger to the life of the inhabitants. This would involve an outlay of about $12. An unprecedented storm swept over this locality on 28th and 29th August. In consequence of this, the Darthmouth River rose over 12 feet in twenty-four hours, and inflicted vast damage on the surrounding country. On these days we lost 8 of our fish, the land around the pond being submerged. We also lost since 350 feet of boom (which is necessary to the protection of our trap net) and part of the net itself, and the stakes. This damage must be repaired in the spring, and will cost about $16.

During the year we purchased 8 tons of coal for the nursery, at a cost of $40. I had the pleasure of meeting one of the lessees of the Dartmouth River, who was well satisfied with the number of salmon he had taken with the fly. The number taken this year was a larger increase over previous years. It is the unanimous opinion of anglers that a large number of salmon went up the Gaspé River before the nets were set, thus accounting in part for the well-stocked state of the upper waters. This has been the subject of much favourable comment. The guardian of the York estimates that his river contains many hundreds of salmon—46 were taken with the fly, and as there were considerable less fishing than usual, which practically shows that a substantial increase has taken place over previous years. The St. John is well stocked with salmon fry and smolt; no statistics are avilable yet, but it must be remembered that there were a large number of nets in tidal waters, and they must have had a successful year. These nets during recent years have made a constant drain upon the river. In view of this fact, and the improved catch, leads to the conclusion that the work of fish culture and protection, as carried on here, confers a benefit on all interested in the salmon industry,

9.—TADOUSSAC HATCHERY.

Province of Quebec.

REPORT OF THE OFFICER IN CHARGE OF THE TADOUSSAC HATCHERY, 1890.

In accordance with the requirements of the Department, I herewith submit the following report of the proceedings at the Tadoussac Hatchery for the year 1890:—

From the crop of salmon eggs obtained last year, 1,700,000 fry were hatched and distributed in the tributaries of the Saguenay and lakes having a discharge running to the St. Lawrence River. The loss on our eggs was somewhat greater than usual, caused by the ravages of rats entering the hatchery. The temperature of the water remains the same the whole winter—34 degrees—and the eggs began to hatch in May, when the water was 36 degrees.

Following is a list of the rivers and lakes, with the numbers of fry planted in each:—

Deschene's River, Upper Saguenay, Chicoutimi Co.....	250,000
A Mars do do do	250,000
St. John do St. John's Bay do	125,000
Jacques Cartier River, Portneuf, Quebec.....	30,000
Mowat's Lakes, Tadoussac, Saguenay Co.....	995,000
Hatchery Lake, do do	50,000
Total.....	1,700,000

The distribution in the Upper Saguenay was done with the assistance of a tug boat belonging to the firm of Price Bros. & Co. All the distribution has been made in all the places under my personal care, with a man to help me in changing and ærating the water in the cans. To take advantage of the coolness of the nights for the fry we left the hatchery at 11 o'clock at night. By doing so we reached the

Upper Saguenay the next morning. By all means it is very important that the greatest part of the distribution should be made in the Upper Saguenay. I claim there ought to be as much pains taken to distribute fry as there is in hatching them.

We set our nets for the capture of parent salmon in May, and everything was ready for the last high tide of the same month. The first salmon was caught on the 27th of May, and herewith is given the catch in detail up to 3rd of July:—

Date.	Number of Fish.	Males.	Females.	Liberated.
May 27	12	1	7	4
do 28	14	2	9	3
do 29	10	3	5	2
do 30	4	2		2
do 31	10	3	2	5
June 1 (Sunday)				
do 2	3	1	2	
do 3	4		2	2
do 4	12	8	2	2
do 5	12	2	6	4
do 6	12	5	7	
do 7	2			20
do 8 (Sunday)				
do 9	7	2	3	2
do 10	20	4	6	10
do 11	31	10	6	15
do 12	42	12	10	20
do 13	93	18	35	40
do 14	81	18	28	35
do 15 (Sunday)				
do 16	111	15	30	66
do 17	47		17	30
do 18	71		20	71
do 19	27		10	17
do 20	57		12	45
do 21	102			102
do 22 (Sunday)				
do 23	24			24
do 24	18			18
do 25	30			30
do 26	10			10
do 27	15			15
do 28	8			8
do 29 (Sunday)				
do 30	20			20
July 1	15			15
do 2	24			24
do 3	14			14
Total	980	106	219	555

On the 7th of June it was blowing a north-west gale, the boatmen could not go to the fishery, and next day being a Sunday, I gave orders to open the door of the fishery, and 20 salmon were liberated. As can be seen by the manner our nets were kept from the 20th of June to 3rd July, this was done to ascertain the number of salmon coming in our nets, they were counted and many were liberated at the same tide. Of the number caught, 325 parent salmon were kept in our pond for breeding purposes, and 655 were set free again. There were 185 females, they gave us a crop of 1,879,000 eggs, being an average of about 10,000, all the females being of medium size. The seining of the parent salmon from the pond commenced on the 27th of October, and the spawning time was completed on the 15th of November. The greatest part of the work was done in the last week.

The Salmon Fisheries.

The salmon fishing this season has been very good in this district, the increase from 1886 is very remarkable, with always the same number of salmon fisheries, 12

in all; 14,790 pounds of salmon were taken in 1886; 16,720 pounds in 1887; 24,000 in 1888; 37,900 in 1889, and 61,000 pounds this year, 1890. I am satisfied that this great increase in the catch of salmon is largely the result of the planting of salmon fry in the tributaries of the Saguenay River. For many years salmon have not been so plentiful in our rivers, as in the year now drawing to a close. The largest river in my district, the Ste. Marguerite, is full of parent salmon, by a report made to myself by the president of the Ste. Marguerite Club, Mr. James Grant, of New York. His nephew, Mr. Charles Grant of Montreal, told me that they counted one hundred salmon while passing one pool. The local guardian, Mr. Gravel, reports the same thing. The same good reports come from the Little Saguenay River, St. John River, Eternity River, A Mars River, and as far up as the Shipshaw River in the Upper Saguenay. On the 18th of November, after the wire net of the pond was taken up, about one hundred fine young salmon about 25 inches long, and very fat, came in the pond and mixed with the parent salmon. I called Mr. Plourde, the guardian, to have a look at them, it was high tide at the time, they went round the pond with the old ones and all went away again. On the 16th of October, Mr. Plourde, being at the rocky point of the hatchery cove outside the wharf, saw, quite close to the rocks, a very large number of young salmon, about the size of the ones mentioned above, coming down the Saguenay. He says there were many thousands.

Repairs.

No repairs have been made about the house the past summer, although some were much needed for the last few years. The building, inside and outside, and the wharf are in a dilapidated state; something must be done.

As reported last year, no doubt, in view of economy, it would be better to have a new building, instead of making additional expenditure on this old building. It is erected on a wharf made of slabs, and is becoming every year more and more filled with rats, which destroy many eggs, no matter what precaution is made to prevent it.

Distribution of Fry.

As the destribution of fry is the most delicate part of our work, and upon which depends all good results therefore everything should be done to facilitate it. Tadoussac is certainly the right place, with its natural pond, to keep the parent salmon during the hot season, and as the Tadoussac Hatchery is intended for the Saguenay River, it would be far better to have the hatching located at the Upper Saguenay, thus saving, every year, a large sum of money in the distribution of the fry, and with better chances of success, as there are so many streams of the purest water to plant the fry in.

The inconvenience of the small lake here which gives the water supply to the hatchery, is that the ice remains too long on it in the spring, keeping the temperature very low, and retarding the hatching of the eggs. Last year the ice on the lake broke up on the 18th of May. And as soon as the ice is all melted, the temperature of the water goes up very fast, the sun and the heat having great power on the small surface of water in this lake. I have always found it unsafe to keep the fry after the 20th of June, and as I never put out the fry before the sack is fully absorbed, it gives us a very short time for the general distribution.

For many reasons if the hatchery is to be rebuilt, I would suggest the Shipshaw River, in the Upper Saguenay, as a very central and desirable place. This river is a splendid one, with its pure and abundant supply of water coming through a wild country and affording facilities for the distribution of fry in it, and also in the other waters of the Saguenay by land and by water.

The erection of a good building to hold from five to six millions of eggs, at a cost of a couple of thousand dollars, would, in a few years, repay what it now costs for a tug, and boats and carters, and instead of planting a few thousands of fry up river as at present, millions could be planted for less money and with more safety. All

the windows of this old building could be used for the new one, and by pulling down the old hatchery and carrying away the slabs forming the wharf, and using all the heavy timber found suitable to improve and extend the dam of the present reservoir up to the rocks, a splendid pond would be had to keep a thousand parent salmon if wanted.

I have the honour to be, Sir,
Your obedient servant,
L. N. CATELLIER,
Officer in Charge.

10.—MAGOG HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE MAGOG HATCHERY, 1890.

In accordance with the requirements of the Department, I beg herewith to submit my annual report for the past year.

On the 26th of March, 1890, two millions whitefish and two millions salmon trout eggs were received, in good condition, from the Newcastle Hatchery.

The small fry from the hatching of the above-named eggs were successfully planted on the following named waters, to wit:—

Whitefish.

Lake Megantic, County of Megantic	100,000
Massawippi Lake, County of Stanstead	100,000
Memphremagog Lake, Counties of Brome and Stanstead.	800,000
Orford Lake, Counties of Brome and Sherbrooke	200,000
Brome Lake do do	100,000
Total	1,300,000

Salmon Trout.

Megantic Lake, County of Megantic	100,000
Massawippi Lake, County of Stanstead	150,000
Memphremagog Lake, Counties of Brome and Stanstead.	1,160,000
Orford Lake, Counties of Brome and Sherbrooke	150,000
Ste. Rose	40,000
Total	1,600,000

We did not catch any parent fish to supply the Magog Hatchery with eggs this year. They were all received from Newcastle.

Two millions whitefish and two millions salmon trout eggs were placed in the Magog Hatchery in 1890.

The hatchery will be in good working condition when the supplies are furnished which have been asked for.

The supplies required and applied for are: 1 wood stove, 50 lengths pipe, 6 distributing cans, conductor or pipe for whitefish, with cocks; $\frac{3}{4}$-in. rubber hose, 12 tins, 6 cords dry hardwood, 8 globe valves; estimated cost about $70.

From information which I have received from fishermen and others living near the lakes wherein salmon trout and whitefish fry have been deposited, I find that there is an increase in both salmon trout and whitefish, but that the increase of the former is much retarded in some localities by poachers during the spawning season. The few fishery officers employed, and the large area over which they have to watch, has a tendency to make the poachers more bold and the trout less plentiful, other-

wise the increase would be much more apparent. Large schools of small whitefish are now noticed in all the bodies of water wherein the fry have been deposited. These all came from the Magog Hatchery, as no whitefish were ever seen in them before the hatchery commenced operations.

I have the honour to be, Sir,

Your obedient servent,

A. H. MOORE,

Officer in Charge.

11.—NEWCASTLE HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE NEWCASTLE HATCHERY, 1890.

I have the honour herewith to submit my annual report of the operations carried on at the Newcastle fish breeding establishment for the past year.

The work of hatching and distributing the various kinds of fish was most successfully carried out. The fry when planted even at the most remote points from the hatchery, appeared to be quite as lively and strong as when taken out of it.

In February last I received instructions from the Department to transfer from Newcastle to some of the Maritime nurseries a quantity of eyed eggs. As previously reported these eggs reached their destinations, under my personal supervision, in good order. No trouble need be apprehended in the carriage of fish eggs even for long distances if escorted by a careful and experienced officer; but it is quite unsafe to ship these delicate and perishable eggs by express messengers alone. I notice in reading some of the United States reports on fish-breeding that the American nurseries have met with some very serious losses by allowing boxes of carefully packed eggs to be shipped in care of the express messengers on board the trains. These agents, though they may be deeply interested in this industry, have little or no time to devote their close attention to these perishable eggs when sent long distances, even though written instructions may have been sent with the consignment. It is, therefore, always desirable, in fact absolutely necessary to send an experienced officer to take charge of either fish eggs or young fish, when shipped from the hatcheries to their points of destination.

The total number of semi-hatched eggs shipped to the Lower Provinces last winter, and the fry of various kinds liberated from the Newcastle establishment this spring was as follows:—

Semi-hatched Salmon Trout.

Magog hatchery,	Province of	Quebec		2,000,000
Bedford	do	do	Nova Scotia	500,000
St. John	do	do	New Brunswick	1,500,000
Ottawa	do	do	Ontario	1,500,000
Total				5,500,000

White-fish Fry.

Toronto, Lake Ontario		500,000
Cobourg	do	250,000
Newcastle	do	300,000
Colborne	do	100,000
Meaford, Georgian Bay		1,000,000
Belleville, Bay of Quinté		500,000
Lefroy, Lake Simcoe		100,000
Total		2,750,000

Salmon Trout Fry.

Toronto, Lake Ontario	500,000
Cobourg do	200,000
Colborne do	200,000
Kingston do	400,000
Newcastle do	250,000
Bowmanville, Lake Ontario	250,000
Marmora, Crow Lake	100,000
Lakefield, Stony Lake	100,000
Port Carling, Rosseau Lake	200,000
Belleville, Bay of Quinté	500,000
Toronto, Howard Lake	25,000
Collingwood, Georgian Bay	500,000
Wiarton do	500,000
Meaford do	500,000
Barrie, Lake Simcoe	200,000
Orillia do	200,000
do Row's Lake	25,000
Lefroy, Lake Simcoe	50,000
Total	4,700,000

Speckled Trout Fry.

R. Croft Hulme, Belleville	5,000
James Haw, Orillia	4,000
D. Martin, Guelph	5,000
Woodstock Club, Woodstock	20,000
John Barr, Shelborne	5,000
Israel Kinney, Brantford	11,000
Doctor Mallory, Grafton	5,000
Harry Piper, Toronto	5,000
E. R. C. Clarkson, Toronto	10,000
Samuel Dice, Milton	3,000
R. Burgess, Muskoka	10,000
W. McDonald, Tilsonburg	10,000
J. Forsythe, Barrie	2,000
W. H. Rittenhouse, Barrie	2,000
J. Gardiner, Paris	5,000
G. P. Buchannan, Paris	10,000
J. T. Brownridge, Paris	1,000
G. Farnham, Hamilton	1,000
J. E. Murphy, Hepworth	5,000
Z. A. Lash, Toronto	50,000
R. Z. Rogers, Grafton	50,000
E. C. Cochrane, M.P., Toronto	2,000
W. Williamson, Ingersoll	5,000
R. Southam, London	5,000
Number turned out in hatchery stream	45,000
Number kept on hand in spring tank	5,000
Number semi-hatched eggs sent to Ottawa	75,000
do do St. John Hatchery.	15,000
do do Bedford do	15,000
Total	391,000

Grand Total Fry Hatched.

White-fish	2,750,000
Salmon trout	4,700,000
Speckled trout	391,000
Total	7,841,000
Semi-hatched eggs shipped to other hatcheries in Lower Provinces	5,500,000
Grand total	13,341,000

Repairs to Hatchery.

The main tank or trough, which supplies the hatchery trays with water, was very much decayed and unsafe. This was renovated last summer and lined with galvanized iron, making it perfectly secure for years to come.

The outside of the hatchery has not been painted since its first erection, and unless it is attended to next spring the building will become much injured. With the exception of a few other unimportant repairs which can be done with little expense after the fry are liberated the establishment and all its appliances are in first-class condition.

The grounds and fish ponds adjoining the hatchery are kept in good order and are visited by a large number of people during the summer.

Collection of Salmon Trout Eggs.

This undertaking received my personal supervision last fall, and was commenced on the 15th of October and completed the 3rd of December, which will be seen by reference to my daily statement of the work hereto appended.

Some important changes were made last fall in locating the pound nets. The two formerly set on the Indian reserve, at White Cloud and Hay Islands, were not placed there this season. It was found that these nets did not capture as many parent fish as was expected, and as the distance from Wiarton to these nets was about fifteen miles, it was decided to abandon these locations and try the experiment of putting one of these nets close to the old and reliable stand at Gravelly Point, which is only nine miles down the bay from Wiarton. This proved to be a great success, notwithstanding the views put forth that two pound nets would not operate successfully when located close to each other. As many eggs were taken from the fish in these two nets as were collected from three during the previous season. The distance to be travelled by tug was lessened by many miles, and the guardians had much less difficulty in protecting the nets against poachers.

A good deal of trouble was experienced in getting a suitable person to set the pound nets last fall. The expert who managed the work last year promised to undertake the job again, but disappointed me at the very last moment, and after writing to several other persons capable of performing this special work, I was compelled to go to Port Dover and procure the services of Capt. Allan to overcome the pressing difficulty. It was most fortunate that his services were obtained, otherwise the collecting of a supply of salmon trout eggs for the several hatcheries in the Provinces must have proved a failure. The proper setting down of pound nets requires years of experience. In fact there are few men to be found in the country who practically understand this business. I am glad to report, however, that after the several years experience now had at Wiarton in connection with the management of the pound net system, that with another season's work our own employees will be able to manage this difficult undertaking without employing these expensive experts as formerly.

I herewith append a statement of the work at Wiarton which gives the number of salmon trout eggs collected daily last fall, also the number of parent fish mani-

pulated and liberated, together with other valuable information which will serve as a reliable record to the Fisheries Department, especially in refuting erroneous statements which are often made by fishermen and interested fish dealers in reference to the "close season" for salmon trout and whitefish. It will be noticed by looking at the last three yearly statements that the Department had wisely set apart the whole month of November, and I am glad to learn that it is the intention of the Government to lengthen the period. This step is absolutely necessary, as it can be proved beyond doubt that large numbers of salmon trout and whitefish spawn as early in the season as the 15th of October.

Condition of the Eggs in the Hatchery.

The hatchery with its large number of eggs, upwards of eleven millions, is at present very much crowded, and as it will be utterly impossible to hatch out more than half this quantity safely next spring, it will be necessary to remove at the proper time, say six millions, to the Ottawa and other establishments in the Eastern Provinces.

I have the honour to be, Sir,
Your obedient servant,
C. WILMOT,
Officer in Charge of Newcastle Hatchery.

STATEMENT showing the daily operations of collecting Salmon Trout Eggs at Wiarton during the Season of 1890.

Date of Lifting Nets.	No. of Nets Lifted.	No. of Fish from which Spawn was collected and liberated.		No. of Fish Spawned out before entering Nets and liberated.	No. of Fish found injured or dead in Nets.		No. of Eggs collected.	Remarks.
		Males.	Females.		Whitefish.	Salmon Trout.		
Oct. 15								J. Kemfick and I arrived at Wiarton.
do 16								Capt. J. S. Allan arrived at Wiarton.
do 17								Commenced getting nets ready.
do 18								Put stakes on spile driver and drove a few.
do 19								Too rough to work at driving stakes.
do 20								Drove stakes for pound nets.
do 21								Finished driving stakes for one net.
do 22								No. 1 net completed and set.
do 23								Sunday. Rough and blowing.
do 24								Set 11 stakes for No. 2 net.
do 25								Too rough to drive stakes.
do 26								Finished driving stakes for No. 2 net.
do 27								Rough weather, could not work.
do 28								No. 2 net completed and set.
do 29	1	83	170	7	4	11	600,000	Early run of fish; wind east; fine warm weather.
do 30								Snow fell one inch; cold weather.
do 31	2	52	140	15	6	15	600,000	Snowing; fish scarce; weather cold.
Nov. 1								Too rough to lift nets; raining and blowing.
do 2								Fish not ripe in nets.
do 3	2	70	210	12	2	10	700,000	Fish very scarce; fine weather; 4½ inches snow fell to-day.
do 4								Fish in nets not ripe.
do 5								Wind south-west; could not lift; blowing a gale.
do 6								Very heavy sea running; wind northeast.
do 7	2	210	454	87	5	27	1,500,000	Wind southwest; raining and freezing; a new run of fish in nets, but many of them not ripe.

STATEMENT showing the daily operations, &c., at Wiarton—*Concluded.*

Date of Lifting Nets.	No. of Nets Lifted.	No. of Fish from which Spawn was collected and liberated.		No. of Fish Spawned out before entering Nets and liberated.	No. of Fish found injured or dead in Nets.		No. of Eggs collected.	Remarks.
		Males.	Females.		Whitefish.	Salmon Trout.		
Nov. 8..	....	....	....	....	....	....	.....	Fish in nets not ripe.
do 9..	....	....	....	....	....	....	.....	Sunday; fine weather.
do 10..	2	221	469	60	9	22	1,650,000	Fine warm day; wind east; fish spawning freely.
do 11..	....	....	....	....	....	....	.....	Had to take spile driver down and set stake which got out of place.
do 12..	1	175	297	49	1	14	1,000,000	Too rough in afternoon to lift No. 2 net; male fish more plentiful.
do 13..	1	70	152	37	4	12	550,000	Wind south-west; guardians report no poaching going on.
do 14 .	1	110	287	54	2	29	1,100,000	Fine warm weather; no new run of fish coming on.
do 15..	....	....	....	....	....	....	.....	Fish in nets not ripe; not nearly as many fish in nets as at this date last year.
do 16..	....	....	....	....	....	....	.....	Sunday; cold and blowing.
do 17..	2	157	360	62	5	37	1,400,000	Raining all day; wind north-east.
do 18..	1	40	70	43	1	9	200,000	Lifted nets but fish very scarce and not ripe.
do 19..	....	....	....	....	....	....	.....	Unless a new run of fish enter nets we will not get many more eggs.
do 20..	2	129	342	98	7	31	1,150,000	Some fresh run fish in nets; very cold and rough.
do 21..	....	....	....	....	....	....	.....	Did not lift; fish not ready for spawning.
do 22..	2	79	271	114	4	29	675,000	Run of fish about over; snowing and blowing and freezing hard.
do 23..	....	....	....	....	....	....	.....	Sunday; cold and rough.
do 24..	....	....	....	....	....	....	.....	Blowing hard; heavy sea.
do 25..	....	....	....	....	....	....	.....	Would have taken out net but too rough.
do 26..	....	....	....	....	....	....	.....	Weather has considerably moderated; took out one net to-day.
do 27..	....	....	....	....	....	....	.....	Blowing and freezing; have net up for winter.
do 28..	....	....	....	....	....	....	.....	Took out No. 2 net and stowed away ropes, &c.
do 29..	....	....	....	....	....	....	.....	I came home and left Kemfick to take scow and spile driver to moorings.
do 30..	....	....	....	....	....	....	.....	Sunday.
		1,396	3,222	638	50	246	11,125,000	

We had not more than half as many fish in nets as last year. Under these circumstances we should feel that the work was a great success.

C. WILMOT.

12.—SANDWICH HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE SANDWICH FISH HATCHERY.

I herewith forward the annual report of the work performed at the Sandwich Fish Hatchery for the past year.

From the eggs placed in the hatchery last year there were hatched 45,000,000 young fish. This was somewhat under the regular percentage, and may need a little explanation. We gathered more eggs than we had incubators or room for, at the time, and in order to accommodate these eggs we were put to the last resort of using the old wire trays that were in use years ago, when the culture of whitefish was first begun. The numbers hatched in the glass jars were fully up to the usual standard, and the falling off on the general percentage can only be laid to those

hatched in the wire trays. Taking this into consideration we can feel quite satisfied with the number of young fish that were hatched. These young fish were placed in the following waters:—

Newcastle (eyed eggs)			3,000,000
Ottawa, Ont.	do		6,000,000
Magog, Que.	do		2,000,000
Bedford, N.S.	do		2,000,000
St. John's, N.B.	do		2,000,000
Point Edward, Lake Huron		Young fish...	2,000,000
River St. Clair, at Port Lambton		do ...	1,000,000
Lake St. Clair, at Mitchel's Bay		do ...	2,000,000
Peach Island, Lake St. Clair		do ...	2,000,000
Fighting Island, Detroit River		do ...	1,000,000
Stony Island	do	do ...	2,000,000
Bois Blanc Island	do	do ...	2,000,000
Pigeon Bay, Lake Erie		do ...	2,000,000
Bar Point	do	do ...	2,000,000
Kingsville	do	do ..	1,000,000
Colchester	do	do ...	1,000,000
Port Stanley	do	do ...	1,000,000
In Lake Erie, below Bois Blanc Island		do ...	3,000,000
Niagara, Lake Ontario		do ...	1,000,000
Hamilton	do	do ...	1,000,000
Toronto	do	do ...	1,000,000
In river at hatchery		do ...	5,000,000
Making the total of			45,000,000

These young fish were in fine condition when placed in the above named waters.

Collecting Pickerel Eggs.

After having cleared the house of the young whitefish, preparations were made for the reception of the pickerel (doré) eggs. Below are given the numbers collected, and the names of the places where secured:—

Wees Bros., Lake Huron	8,000,000
Joseph Leazeau do	8,000,000
Hitchcock & Stead, Point Edward	16,000,000
Making the total secured	32,000,000

From these eggs were hatched out 22,000,000 young pickerel, which were placed in the following waters:—

Ottawa (eyed eggs)			1,000,000
Point Edward, Lake Huron		Fry...	2,000,000
Port Lambton, River St. Clair		do ...	1,000,000
Mitchel's Bay, Lake St. Clair		do ...	1,000,000
Peach Island	do	do ...	2,000,000
Fighting Island, Detroit River		do ...	2,000,000
Bois Blanc Island	do	do ...	2,000,000
Pigeon Bay, Lake Erie		do ...	3,000,000
Bar Point	do	do ...	2,000,000
In river at hatchery		do ...	6,000,000
Making the total			22,000,000

I can here state that the different fishermen report to me the catch of pickerel was above the average last spring, and, as usual, give great praise to the hatchery for the cause of the increase in these fish.

I have just received certain nets from the Department for the purpose of securing our own fish, but as yet have not decided on a location where to place them. Several places have been recommended to me, but until some satisfactory place is located I would not advise the giving up of the present mode of securing parent fish until the new venture had proved successful.

Collecting Whitefish Ova.

The fall of 1890 can be recorded as having the greatest number of whitefish eggs laid down since this hatchery was first organized, there being fully ninety millions of eggs put in the incubators. These eggs were taken from fish caught at the following places :—

Bois Blanc fishery	30,000,000
Fighting Island fisheries	45,000,000
Mainland fisheries	15,000,000
	90,000,000

The Catch of Whitefish.

From all around this section of the country comes the report of increase in the catch of whitefish. The fishermen are jubilant, and expect greater results from the artificial hatching in years to come, from the fact that the catch continues to improve from year to year, and from the size of the fish caught it is contended that they are largely the production of artificial breeding. For instance, take the Bois Blanc fishery's catch this fall. Here there were hauled in over 1,000 small fish which were put into the racks for spawning purposes, nearly all escaped through the openings which were made suitable to keep in the ordinary sized fish. The fishermen claim that these small fish were, without any doubt, the production of the hatcheries. The same statement of the catch of small fish comes in from every fishing ground hereabouts. This catch at Bois Blanc Island fishery is a very strange one, but is a very strong argument in favour of the hatcheries, as the fish formerly taken at this fishery were noted as being the largest of any caught in the river.

The Herring Fishing.

Although we have never done anything with the cultivation of the herring, yet, I believe, it will be advisable to do so, as that fish seems to be fast decreasing in these waters. The catch this year is a long ways below that of any former year, and the fishermen are beginning to ask if we are not going to breed them in the hatchery in like manner as the whitefish. I would recommend the Department to engage in the cultivation of the herring.

Improvements in the Hatchery.

Since last year several improvements have been made in this house. The entire floor is now devoted to the hatching of fish, and instead of running 350 glass jars as formerly we now operate 600, and will be able to turn out about double the number of young fish. In the centre of the floor a large tank is built, in which there were placed 100 adult whitefish, which gave quite a quantity of eggs. I think the idea of bringing the fish, which we are unable to spawn at the fishing stations, and putting them in this tank, is a good one, and one which will in after years prove of great benefit to the hatchery, as we will then secure quite a number of eggs that otherwise could not be had. In speaking of the improvements that have been made it might be well to speak of another which is needed—that of securing and controlling a steam yacht for the purpose of putting out the young fish at our convenience.

Last season, on account of no steamer running to Pelée Island, it was impossible to place any fish at that place without heavy expense, which I did not incur. With a small yacht fry could be distributed readily and cheaply at this and other important points. This boat would not only be useful for the distribution of young fish, but also for the collecting of eggs, and would save the Department much expense now incurred and at the same time advance this hatchery. The cost of such a boat would be in the neighbourhood of $500 or $600.

There should also be a movable breakwater built at Bois Blanc fishery to prevent the water dashing the fish against the racks when storms prevail, which they frequently do at this point. The cost of this would be $100, and would save the fish from being bruised, which materially injures the egg within them.

The only other improvement that I know of now for this establishment is the painting of the hatchery, the cost of which will amount to about $200.

In closing this report I desire to say something about the decrease of the sturgeon. As this has become a very valuable fish, I would recommend that efforts be made to secure some of their ova and propagate them in the same way as we do other fish.

I desire also to state that all the improvements ordered by your Superintendent of Fish Culture, Mr. Wilmot, is working admirably.

I have the honour to be, Sir,

Your obedient servant,

WILLIAM PARKER,

Officer in Charge.

13.—OTTAWA HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE OTTAWA HATCHERY, 1890.

Herewith is submitted the first annual report of the working of this hatchery. The ova received from the different hatcheries were as follows:—

Salmon ova from British Columbia	150,000
do Restigouche Hatchery, Prov. Quebec.	25,000
Salmon trout ova from Newcastle Hatchery, Ontario...	1,500,000
Speckled trout ova from do do	75,000
Whitefish ova from Sandwich Hatchery, Ontario.....	6,000,000

The young fry were distributed from this hatchery last spring in excellent condition, considering the long journeys and rough roads to their destination. They were planted in the waters at the following places:—

Salmon fry.

Meache's Lake, Province Quebec.....	84,000
Knowlton do do	14,000
Smallions do do	14,000
Total	112,000

Salmon Trout fry.

Meaches Lake, Province Quebec.....	20,000
Moseau do do	30,000
Rideau do Province Ontario	200,000
Duchesne do do	60,000
Bernard's do Province Quebec.....	21,000
Duchesne do do	200,000

Lancaster, River St. Lawrence	80,000
Summerstown do	80,000
Rideau Lake, Province Ontario	60,000
Lower Rideau Lake, Prov. Ontario	60,000
Bernard's do do Quebec	90,000
Clidcotts do do do	60,000
Crutch and Antonine Lakes, Province of Quebec	40,000
Seybold and Gibson do do do	20,000
McKenzie Park Lake, Province of Ontario	20,000
Total	1,051,000

Speckled Trout-fry.

Trout Lake, Province of Quebec	15,000
Graham's Lake, Province of Quebec	15,000
Green do do do	25,000
Bernard's do do do	15,000
Total	70,000

Whitefish Fry.

Charleston Lake, Province of Ontario	600,000
Little do do do	150,000
Bass do do do	150,000
Delta do do do	600,000
Singleton do do do	150,000
Greppin do do do	150,000
Rideau do do do	600,000
Mud do do do	600,000
Duchesne do do Quebec	150,000
Seybold and Gibson Lake, Province of Quebec	150,000
Meache's Lake, Province of Quebec	225,000
Mississippi Lake, Province of Ontario	225,000
Stoney do do do	450,000
Ireland's do do Quebec	225,000
Clark's do do do	75,000
Total	4,500,000

Remarks.

All the fry were planted in the different waters in good condition, with the one exception of some Fraser River salmon fry which were shipped by express to Brome Lake in the Eastern Townships, and to avoid any such loss in the future it will be found absolutely necessary that the officer in charge or some other competent person shall accompany the fry to the different waters in which they are to be planted.

The hatchery being newly constructed, considerable difficulty was experienced by not having sufficient accommodation for them at the proper time, many whitefish and salmon trout were hatched out before the tanks were built outside to receive them. It will be found necessary to have two more rows of tanks put up next spring to accommodate the young fish and prevent over-crowding in the troughs inside. The hatchery and the frames for the outside will require painting the coming summer, and there will also be required some carpenter's work for putting up additional stands for the tanks in the yard.

I have the honour to be, Sir,
Your obedient servant,
PHILIP VEALE, *Officer in charge.*

ANNEX TO FISH BREEDING REPORT.

REPORT.

WHITEFISH FOR LAKE ONTARIO.

CORRESPONDENCE RELATIVE TO STOCKING LAKE ONTARIO WITH WHITEFISH.

ROCHESTER, N. Y., 14th January, 1891.

SAM. WILMOT, Esq.,
Ottawa.

DEAR SIR,—Please read the enclosed slips and tell me fully what your answer is to the accusation against your people.

An early answer will oblige.

Yours truly,
F. J. AMSDEN.

MEETING OF THE NEW YORK STATE FISH COMMISSIONERS.

("Evening Post," 14th January, 1891.)

A meeting of the State Commissioners of Fisheries was held to-day in the market and Fulton Bank building, at Gold and Fulton streets. Applications for twenty oyster franchises were granted, and a long list of arrests and fines by the state game protectors was read. The reports from the various state Superintendents of fisheries for the coming season were encouraging.

A letter was read from F. J. Amsden, of Rochester, asking for the co-operation of the commission in bringing about concerted action on the part of the United States and Canada for the propagation of the whitefish in Lake Ontario and elsewhere. It was said there was a necessity for such action, and that more attention should be paid to the more common varieties of food fish. However, no united action could be taken with the Canadian Gouvernment, nor could uniform laws be passed on both sides of the lakes as long as the Canadians permit net-fishing. Most of the whitefish had now been taken from waters off the Canadian shores. It was useless to stock the lakes until netting was stopped. At the present time, not only were the large whitefish being taken, but thousands of the small whitefish were caught and sold in this city and elsewhere as herrings.

CORRESPONDENCE REGARDING PRESERVATION OF WHITEFISH IN LAKE ONTARIO.

Mr. Edward F. Doyle,
Secretary Commissioners of Fisheries, New York.

DEAR SIR,—I am in receipt of your favour of the 14th instant, informing me of the action of the Commissioners of Fisheries in respect to stocking Lake Ontario with whitefish, siscoes and wall-eyed pike, and conveying the assurance that the Commission is in sympathy with myself and associates in the effort we are making to increase the supply of fresh-water food fish, available to the residents of States adjoining the Great Lakes.

The purpose of the association with which I am identified is entirely of a public nature, and its design is to render a wholesome article of food so abundant and accessible to the communities residing in States bordering the Great Lakes that any one can, for a small sum of money, have on his table, every day in the week, during the season, a supply of those fish which are universally regarded as highly desirable food.

The assurance that the Commissioners of Fisheries of the Empire State will co-operate with us in our endeavours is exceedingly gratifying, and cannot fail to be of the utmost importance in all future efforts that are to be put forth.

From the experience which I have acquired since becoming interested in this subject, aided by my correspondence with others, at home and abroad, who have also given much consideration to the project, I am convinced that the task before us will not prove to be an easy one to accomplish, but will call for persistent and concentrated efforts by all who take the matter to heart. The public voice will no doubt be with us, but we may reasonably expect to meet with opposition, either direct or indirect, from certain interests that can always be depended on to oppose any public measure adverse to their own short-sighted and selfish policy. The fishermen who persist in using nets of such small mesh that they catch fish of not more than half a pound weight are pretty sure to be heard from in a united wail when an attempt shall be made, in the public interest, to compel them to abandon their foolish practice of taking the immature fish and thus depleting the waters, which, if fished in a rational way, would continue forever to supply the growing population with a generous amount of full-grown fish.

The importance of the subject suggests that it may be necessary to enlist international interests in the cause, or, if not international, at least interstate. It would be obviously futile for the State of New York

to expend money and effort in stocking the waters of Lakes Ontario and Erie with food-fish unless concurrent action toward its reasonable protection should be taken by Pennsylvania, Ohio and the Province of Ontario. There are no bounds between the waters of the various States named that would prevent the fish planted by New York from going to other shores, where they might be caught out of season or by the use of nets, which would not be tolerated by the State which had them hatched. It is self-evident that those States, including the Dominion, which are so fortunate as to be bounded by the Great Lakes, must unite in a determination to stock their waters, and, when they are stocked, to give them such thorough protection that no one but an outlaw will think of violating the regulations prescribed by reason and experience for the protection of the fish. Anything short of this would, in my judgment, be but little better than a waste of time and money.

I therefore respectfully submit to the Commission that, as it has the advantage of being a lawfully appointed and influential body, representing the Empire State, it could with grace invite representative organizations from other States interested to take up the subject in a common spirit and obtain such legislation from the respective States as will give assurance that when the minor work of depositing millions of fry in the waters of a lake has been done the more important and difficult task of protecting the stock until it is mature shall be carried out with fidelity by the united power of all the States that border on the waters.

In your communication of the 14th I note with interest the fact that the Commission intends to liberate 4,000,000 siscoes in Lake Ontario next spring. It may be presumptuous in a private citizen to offer suggestions to a body of experts, but it has occurred to me that, as the siscoe is at best but an indifferent fish, and when mature is not as large as a whitefish or pike should be before it is fit to be caught, the presence in the lake of so many siscoes would offer a temptation for unscrupulous persons to set nets, ostensibly for siscoes, which would take innumerable young whitefish, lake trout and pike, that would otherwise remain in the water until large enough to be caught in the net of legitimate size mesh, which should alone be allowed in the water where the better fish are to be cultivated. If the purpose of putting out the siscoes be to furnish food for the pike, then the objection would not prevail. But it would seem that such a large number of siscoes would necessarily consume food that might better be reserved for the more valuable whitefish.

Respectfully yours,

FRANK J. AMSDEN.

OTTAWA, 17th January, 1891.

F. J. AMSDEN,
Rochester, N. Y.

Your note enclosing paper cutting to hand. I notice its contents. I am very much surprised at the want of knowledge shown therein regarding the whitefish question, when it is stated : "It will be useless to stock the lakes until netting is stopped."

It will be a nice question to solve, how whitefish are to be taken for commercial purposes unless with nets, as they cannot be taken in any other way. Whilst the taking of the whitefish in nets cannot be avoided, and should not be prevented, yet, with proper laws and regulations regarding the times and modes of applying them, the great whitefish industries of the country would, at the present day, have been largely upheld—in fact, had our American cousins shown the same anxiety and the same amount of wisdom for protecting the whitefish and other fisheries in Lake Ontario and many other waters on their sides of the line, they would not now present the lamentatable state that exists at the present day, and of which complaint is made "that the Canadian Government has been instrumental in bringing about." Why so forgetful of the fact that Canada has on her statute books laws to protect whitefish at the spawing time, and regulations regarding the mesh of nets to catch them, during the past thirty years and more, whilst the United States or the State of New York has not now and never had any laws and regulations for protection of this valuable fish, but has allowed indiscriminate slaughter throughout at the spawning time, and at all times, with every description of engine that the ingenuity and cupidity of the American fisherman could invent to kill and destroy fish with.

Not only has the absence of a law for protecting whitefish in American waters seriously injured—in fact, almost wholly depleted them—but it has also given trouble and difficulty without end in the enforcement of the Canadian fishery laws, its inhabitants complaining that they (the Canadian fishermen) were restricted from taking fish at the close time, when on the American side, where, in some cases, only an indefinite international line exists, the latter are allowed to fish how, when and where they chose. In some cases, where a narrow boundary existed like the Detroit River, by such proceedings and subterfuges of all kinds the Fisheries Department of Canada had to give way and allow infringement upon its well-intentioned legislation to protect their fisheries. Did not the Fisheries Department of Canada erect the first governmental whitefish hatchery on this continent, or even in the world? And have not many of the States of the Union followed most wisely and liberally in this praiseworthy undertaking to replenish their waters with whitefish. I regret to say that not only did the Federal Government but many of the State Commissions advance the fallacious idea that as the artificial breeding of fish had been entered upon, and had proved so successful, it was useless to restrict the fishermen from keeping any close season, and that the supplies of fish would be upheld by this artificial process. What a fallacy to put forth, that artificial breeding would take the place of natural breeding. No wise or favourable advocate of artificial culture of fish should put forth such a statement, for in the minds of the more intelligent classes such a theory must injure rather than benefit the actual or anticipated results from artificial fish culture. Strong advocate as I am, and as one of the pioneers of the work, I have never advocated but one view, namely, that artificial breeding must only be considered as a great adjunct and supplementary aid to the natural process. The natural and artificial means, combined with judicious laws as to the close seasons and regulations regarding nets, etc., would maintain the fisheries for all time to come. Artificial propagation alone, without the other methods being wisely applied, will never effect the desired end of replenishing or maintaining the fish supplies in the waters of any country.

Let such of your people as may be desirous of intelligently husbanding, and improving the whitefish wealth of their country, and especially of Lake Ontario, which is referred to, adopt similar laws and regulations to those in Canada (which may yet be largely improved upon) for enforcing a "close season" in which these fish reproduce their species, unmolested by the American fishermen; regulate the nets as to length, size of mesh, etc., so that the young and immature fish shall not be taken; supplement this by an extensive system of artificial propagation; adhere to this system for years, and every year; eschew the iniquitous clap-trap of greedy fishermen and party politicians, whose only desire is to kill and destroy for the present, caring nothing for the future, and I doubt not the fish wealth which Providence had so bountifully supplied the waters with for the use of mankind may again be largely replenished. Otherwise, but a few more years of the present reckless system of fishing must inevitably bring about such a depletion in Lake Ontario and elsewhere, of the whitefish and other fishing industries, as to make them counted as things of the past.

Let your Commissioners condescend to ask the co-operation of the Canadian authorities for the preservation of the fisheries in Lake Ontario or elsewhere, and I doubt not but that it would be received courteously and acted upon with that mutual spirit which should prevail between people, though of different nationalities, for the preservation and improvement of a source of wealth which so largely abounded in the dividing waters between them, but which now, for the want of proper care, is fast passing away.

Yours very truly,

SAMUEL WILMOT.

UNITED STATES SALMON AND WHITEFISH HATCHING STATION ON LAKE ONTARIO, N.Y.

Following is a report in Congress upon the Bill for the erection of the hatchery, and accompanying it is a letter from the United States Fish Commissioner. This will prove one of the most important stations of the Commission:—

Mr. Farquhar, from the Committee on Merchant Marine and Fisheries, submitted the following report:—

The Committee on Merchant Marine and Fisheries, to whom was referred the Bill (H. R. 13350) for the establishment of a fish hatchery in the State of New York, near the St. Lawrence River, respectfully report said Bill back to the House, with a proviso thereto as follows:—

Provided, That the Commissioner of Fisheries shall first be satisfied that the State of New York has taken efficient measures for the regulation of periods for fishing and for proper protection of fish in the spawning season in the waters of northern New York.

And that when so amended your Committee recommend the passage of said Bill.

The accompanying letter from the United States Commissioner of Fisheries, communicated to the Senate, gives sufficient reasons for the establishment of the fish hatchery proposed to be established by the Bill, and the same is made a part of this report:—

U. S. Commission of Fish and Fisheries,
Washington, D. C., 26th January, 1891.

Sir,—In obedience to Senate resolution of 18th December, 1890, directing the United States Commissioner of Fish and Fisheries to report to the Senate as to the desirability of the establishment of a fish hatchery in northern New York, near the St. Lawrence River, I have the honour to report as follows:—

The basin of the St. Lawrence, including Lake Ontario and Lake Champlain and the innumerable smaller lakes and tributary streams which drain into these, comprises fully one-half of the area of the State of New York, about one-fourth of the State of Vermont, and on the Canadian side a more considerable drainage area.

In Lake Ontario whitefish were formerly very abundant. The value of this fishery has declined year by year, and at present the production is relatively insignificant compared with the whitefish fisheries of Lake Erie, Lake Huron and Lake Michigan.

In the waters referred to a like decline was in progress, but those who were interested in those fisheries were prompt to recognize the necessity of legislation to restrain and regulate the methods, and apparatus, and seasons of capture.

Artificial propagation was also systematically resorted to, to supplement and reinforce natural reproduction, and whitefish hatcheries were established by the States of Michigan, Ohio and Wisconsin, and by the Canadian Government. Entering the field at a later date, the United States Commission has established stations for the collection and hatching of whitefish at Alpena, Mich.; Duluth, Minn.; and Put-in-Bay, Ohio.

The result of this co-operative fish culture work by the Canadian, State, and United States Fish Commissioners has been not only to arrest the alarming decline that was in progress, but to determine a marked increase in the catch of whitefish in those waters in which fish-cultural work has been carried on.

The marked contrast between the present conditions of the whitefish fisheries of Lake Erie and Lake Ontario sharply defines and emphasizes the necessity of artificial propagation as a means of maintaining and improving our important commercial fisheries, and of creating such in waters where they have not before existed.

We can not afford to neglect so important an economic resource, one which gives such substantial and valuable returns for moderate expenditures.

We can not expect individual enterprise to undertake such work in public waters in the expectation of private gain. Men, however public-spirited, will not sow the seed of a harvest which all men may gather. Our lakes and rivers and coast waters must be farmed by the Government for the general use, and under such regulations as will establish and maintain the largest production.

Another important commercial species which formerly existed in Lake Ontario in marvellous abundance, but which is now so rare as to be an object of curious interest when seen, is the Atlantic salmon. Sixty years ago, each season it ascended the St. Lawrence in vast numbers, and swarmed in all its tribu-

taries. Following both shores of Lake Ontario, it ascended all the smaller streams which fall into it and which afford suitable spawning grounds for the mature fish and favourable nurseries for the fry during their period of river life.

The following extract from the annual report of the Department of Marine and Fisheries of Canada, for the year ending 30th June, 1869, will be instructive as well as suggestive :—

"*Special Report of Inspectors Whitcher and Venning, on Fish-Breeding at Newcastle, Ontario.*

"We proceeded yesterday to Newcastle, Ontario, in compliance with your directions, and made a personal inspection of the fish-breeding establishment there, under charge of Mr. Wilmot. The premises are situated on Baldwin's or Wilmot's Creek, a small stream traversing the township of Clarke, in the County of Durham, and discharging into Lake Ontario, about forty miles east of Toronto. This creek is well situated for salmon, as it forms a natural inlet of the sheltered bend of the lake between Bendhead and Darlington. Although at its entrance into the lake it passes through a marshy lagoon, the bed of the stream farther inland is of a gravelly nature and the water is pretty clear, regular, and lively in its flow. In early times it was famous for salmon, great numbers of which frequented it every autumn for the purpose of spawning. They were so plentiful forty years ago that men killed them with clubs and pitchforks, women seined them with flannel petticoats, and settlers bought and paid for farms and built houses from the sale of salmon. Later they were taken by nets and spears, over 1,000 being often caught in the course of one night. Concurrently with such annual slaughter, manufactories and farming along the banks had obstructed, fouled and changed the creek from its natural state, and made it less capable of affording shelter and spawning grounds. Their yearly decreasing numbers at length succumbed to the destruction practised upon them each season from the time of entering the creek, until nearly the last straggler had been speared, netted or killed."

The history of the salmon fishery of Wilmot's Creek, so graphically told by the Canadian commissioners, has been repeated in every stream of the State of New York which drains into Lake Ontario and the St. Lawrence River. All were frequented by the salmon, and from each, each season, went out a numerous colony of parr and smolts, which descended the St. Lawrence to the Gulf, where they remained until they had attained size and maturity, when, obeying the impulse of reproduction, they ascended the St. Lawrence and distributed themselves to all the tributaries of lake and river, carrying back to these inland waters the rich harvest of the sea which they had garnered.

This magnificent fishery has ceased to be. Did it exist to-day, and were the conditions which made such a fishery possible prevailing to-day, a hundred streams now barren would afford salmon fishing as attractive as the more favoured waters of Canada, and the catch by net in the lake itself would furnish the motive of a valuable commercial fishery.

The cause of the disappearance, practically, of salmon from the streams of the St. Lawrence Basin, has been chiefly and primarily the erection of obstructions in all of the rivers, which have prevented the salmon from reaching their spawning grounds, and so natural reproduction has been absolutely inhibited.

The restoration and maintenance of the whitefish fisheries of Lake Erie, or of the salmon fishery of the lake and rivers, would either of them furnish sufficient motive for liberal expenditure on the part of the Government, if we consider the matter from a purely practical and economic standpoint. It is not only possible, it is entirely practicable, to restore and maintain these fisheries, by adequate recourse to means and agencies entirely within our control.

The regeneration of the fisheries must be accomplished through fish cultural work, systematically and persistently pursued. Their maintenance must be assured by concurrent regulation of the lake fisheries by the United States and Canada, and by the enforcement on the part of the State of New York of such regulations and requirements as will permit the salmon to ascend to their spawning grounds. In the absence of such regulations and requirements it will not be reasonable to expect that the results of fish cultural work will be permanent or compensating, however extensive such work may be.

A fish cultural station, planned to meet all the requirements, must be very extensive and complete in all its appointments, and will involve larger expenditure than would be required for a station devoted exclusively to the production of whitefish or the salmonidæ. The hatchery must be commodious, providing at once for the hatching of 100,000,000 of whitefish and for the incubation of 1,000,000 salmon ova. It must also provide trough accommodation for holding 1,000,000 salmon fry for some weeks after they begin feeding. Quarters, offices, storage rooms and shops must be erected ; an extensive system of ponds for rearing the salmon must be constructed, for none would be released in open waters until they were of sufficient size to have comparative immunity from capture by other fish.

At the first installation of the station, and for several years, it would be necessary to draw our supplies of whitefish ova from our collecting stations on the upper lakes, and our salmon ova from Maine. With the improvement of the fisheries, we should expect to find our eventual source of supply in Ontario waters, and the location of the station should be with reference to this. Wherever placed, it should be convenient to transportation routes, and should control a gravity water-supply which should be without stint or measure.

The cost of such a station as I have indicated, complete in all its appointments, would not be less than $20,000, exclusive of cost of site and water franchises, and for its maintenance there would be required an appropriation of $9,000 per annum.

Respectfully,

HON. LEVI P. MORTON,
Vice-President.

MARSHALL McDONALD,
U. S. Commissioner of Fisheries.

RESULTS OF FISHCULTURE.

(*"Forest and Stream," 1st January, 1891.*)

It is probable that to those of the readers of *Forest and Stream* who are not particularly interested in fish culture, and are therefore not acquainted with the facts, the statements of Mr. Milton Peirce, which have recently been made concerning the present aspects of trout culture, will appear to be quite frank and plausible. Therefore, in view of the attitude he holds toward present methods of fishculture in general a little further dissection of them, as evidence of his competency as a critic, may be advisable. And first,

what does he offer to sustain his statements? Simmered down, it might be formulated into the following declaration, viz.: "I, Milton P. Peirce, an eminent authority on fish culture on my own showing, say that is so, and therefore it is so." Mr. Peirce's egotism is apparently unconscious, to do him justice. The gist of the controversy between Mr. Peirce and myself is well set fourth in the following from the *American Angler* of 4th October:

"A MAD FISH CULTURIST.—We print the annexed communication in full at the request of Mr. Peirce, whose main trouble seems to be restlessness under opposite opinions to his own. His dictatorial style is offensive, and discussion of any subject with him appears to lead to personalities that are always avoided and condemned when gentlemen exchange views on public questions. Our editorial, 'A Mad Fish Culturist,' published some weeks ago, was suggested solely by the humorous element contained in two public assertions by Mr. Peirce, that Byers (an old veteran) was a callow youth, and that he (Peirce) 'knew it all.' We had no special design to belittle Mr. Peirce's abilities or ridicule his pretensions, and cheerfully accede to his somewhat modest request that we should allow him to blackguard us in our own columns.—ED."

I very respectfully decline to accept controversy upon Mr. Peirce's terms. Trout culture is not being abandoned, but is keeping step with other branches of fish culture, and needs no very urgent defence. Mr. Peirce states that trout culture has been discontinued in France. Now the papers by C. Raveret-Wattel, F. Muntadas and Frank H. Mason, Consul at Marseilles, in the Bulletin of the United States Fish Commission for 1887, are direct evidence to the contrary. Mr. Peirce's observation appears to be of the period when very young fry were deposited as food for the cottoids which inhabit trout brooks, instead of the past four or five years, during which the output has been yearlings, which are not only able at once to defend themselves against their enemies, but also to devour the smaller of them, and which policy is producing such marked results in this country and in Europe.

Mr. Peirce is willing to admit that if his methods are followed there is still some hope for fish culture. (This appears to be the main trouble with him). In trout culture it consists in increasing the meanderings of the streams. Even if there were anything in this, those who are at all familiar with trout streams are aware that they will insist upon laying out their own courses.

There is a vague hint of some experiment in shad culture by "Peirce's methods" now being made. This is certainly interesting news, and the result will be awaited with great expectations. But let us take up the shad and whitefish culture as tests of Mr Peirce's fairness and reliability as an observer, since these are commercial fisheries, the statistics of which are regularly and accurately collected, and cannot be controverted by vague and unsupported assertions. Any reasonable person would be convinced by their growing abundance and cheapness that there is a constant increase in the numbers of shad. In spite of the fact that by reason of the wonderful improvements in methods of refrigeration, by means of which they not only can be shipped to any distance, but are kept in fresh condition for any length of time, and also notwithstanding the rapidly increasing population, fine roe-shad were sold in the cities of the Atlantic coast States during the spring of 1890 for 25 cents each. Further, so great was the glut that for the first time in twenty-five years the salting of shad was begun on a commercial basis on Chesapeake Bay. Still further, as many as one hundred barrels of shad have been caught at sea recently at one haul of a purse-net by mackerel fishermen. These evidences would be explained by Mr. Peirce by the assertion of "a year of plenty." To this I will refer further on.

Mr. Peirce's qualified admission as to the value of artificial stocking, as shown by the population of Pacific waters with shad, may be supplemented by some statistics of interest. The shad catch of California in 1888 was 151,871 lbs., or about 45,000 fish. In many places where the largest runs occurred, notably in Monterey Bay, there is no special apparatus used for shad, and more are taken by accident than otherwise. The catch, therefore, while large for a new fishery, probably gives no real idea of the abundance of the species. During 1887 as many as one or two tons of shad were shipped from Santa Cruz, Cal., in one day. They are found as far north as British Columbia and Alaska, and certainly furnish, to a reasonable mind, sufficient evidence as to the beneficial results of artificial stocking. If the one or two hundred thousand delicate little fry carried in cans from the Atlantic coast to California, and deposited in waters to which they were until then unknown, would live and multiply at such a rate, what must be the result of work so much more extensive and constant.

Now, to return to the Atlantic coast. If Mr. Peirce were to ask shad fishermen at Gloucester, N.J., Alexandria, Va., or on the Susquehanna, above Havre de Grace, whether the shad fishing is improving or declining, he would probably be told with a mournful shake of the head that shad fishing is "played out." It is very evident that it is from such sources that Mr. Peirce draws his inspiration. What are the facts in the case as shown by the carefully collected statistics of the Fisheries Division of the United States Fish Commission? Why, that at present the shad catch of the Atlantic coast is increasing at the rate of about one million per annum, that since 1884 this increase has finally resulted in an addition of $1,200,000 a year to the food supply of the country (at the moderate estimate of 20 cents each) in this one species. And to show that this is not mere vogue, guess work or speculation let us take what statistics are available for the purpose. The first statistics which were taken after the commencement of the artificial propagation of shad, which were those of the census of 1880, which showed the catch of that year to have been 4,140,968. It was not until 1885 that a systematic collection of statistics of the Atlantic coast fisheries was begun. In that year, although at that time, as compared with the present, the output of fry was but meagre, the catch had increased to 5,173,931, an increase of 1,032,963, representing an increase of value of $208,593 over 1880. In 1886 the catch was 5,584,368, an increase in number of 1,443,300, and in money value of $288,680 over 1880. In 1887 the catch was 6,715,405, an increase in number of 2,574,437, and of money value $514,887 over 1880. In 1888 the catch was 7,660,474, an increase in number of 3,519,506, and of money value $703,901 over 1880. The statistics for 1889 and 1890 are not yet complete, but a conservative estimate places them in the neighbourhood of 9,000,000 and 10,000,000 respectively. The money value is based on a rate of five shad to the dollar. It will be seen by the above statistics that in the four years of 1885-88 the aggregate money value of the increased production was $1,714,061, and the average annual increase in value $428,515. Now, it is well known that it was due to the rapid decline of the shad fisheries and the threatened extinction of that fish, more than to any other cause, that the United States Fish Commission came into existence, and to the work of that great organization, supplemented to a small extent by some of the States, alone can be traced this gradual and regular increase in the shad fisheries. How, then, are we to account for the impression which prevail in some localities that the river shad fisheries are on the decline,

and which are undoubtedly the basis of Mr. Peirce's erroneous conclusions. Here comes in the value of statistics over the conjectures of disappointed fishermen and the local *Veritas* or *Pro Bono Publico*. The explanation of it all will be found in the development of the pound-net or gill-net fisheries of the Atlantic coast. Let us take Chesapeake Bay for example. The number of pound-nets in these waters in 1887 was 973 ; in 1888 it was 1,414. The statistics of 1889 and 1890 are not yet available, but it is estimated that there are now at least 2,000 of them. By reason of these great pound-nets, some of them stretching two and three miles out from the shore, the bulk of the shad catch is now taken in salt water, and finds its way to market, to a great extent, through new channels. As four men operate as many as ten pound-nets, there is great economy in this method of fishing. The gill-nets, also requiring but little capital, have greatly increased in number, and so the fish which find their way into the rivers are apparently less abundant, because the catch is divided among a greater number of fishermen.

The proportion of fish taken in the bays and lower portions of rivers is becoming greater each year, and thus the great and expensive shore seines in fresh water are becoming less and less profitable. As a matter of fact, however, there is a constant increase in the number of shad caught in the rivers, as the statistics show. During the season of 1890, which was regarded by the fishermen of the Potomac River as a poor one, 100,000 more shad were caught in that stream than in 1889, as shown by the statistics of Health Officer Addicks, of Washington, D.C.

It is well known that certain of the salt fish industries of New England are declining, simply because, by reason of improved refrigeration, more fish are finding their way to the markets of the country in a fresh condition, and this, to some, has the appearance of a decline in the fisheries themslves. During 1888, 1889 and 1890 the output of shad fry was many millions greater than during the entire previous history of the work, and this great output will probably be heard from 1891 to 1894, showing, it can be safely predicted, a still greater ratio of increase.

Mr. Peirce complams of the meagre shad catches of the New England waters. This can be traced to the meagreness of the output in those waters. The total output of 1886 was 34,659,000. Of these, but 5,500,000 were deposited in the Hudson and New England waters. In 1887 the output was 108,425,000, and 5,250,000 of these were placed in the Hudson and New England waters. In addition, 6,644,000 eggs were sent to Cold Spring Harbour for hatching and deposit in the Hudson and its tributaries. Here we can trace out cause and effect very clearly. Perhaps in this connection the following concerning the shad fishery of Florida will prove interesting : Compared with 1880, the catch in Florida in 1889 was 1,000 per cent. greater, while the number of fishermen employed was only 200 per cent. greater.

The output of shad fry by the United States Fish Commission is now nearly 150,000,000 per annum. The survival of 7 per cent. of these would equal the shad catch of the Atlantic coast. "Does any one suppose that one in fifteen of the plant of young shad made in the waters of the Delaware last season will ever be seen again by mortal eye ?" asks Mr. Peirce in the late *Journal of Carp Culture and Rural Hydraulics*. Well, judging by the results on the Pacific, some of them do live in spite of the wails and lamentations of the "prophets." And would the survival of seven out of one hundred of these fry be an unreasonable expectation ?

And now concerning the "years of scarcity and abundance" which prevailed generally before the statistics were regularly and systematically collected, and which are still used as an argument by those who view the question from a purely local standpoint, or are not well informed. Regarding seasons of plenty and scarcity of shad, it has become recognized as a law of the species that years of plenty in certain rivers are superinduced by a high temperature of the water in the early season. Thus while the run of shad in southern rivers and coastal waters south of Virginia may be exceptionally large, the passage of these migratory hordes into the Chesapeake and Delaware basins, as well as into the Hudson and Connecticut, is controlled entirely by the temperature of those waters, while, as often is the case, the waters of the Chesapeake may be of suitable temperature, a reverse condition may exist in the Delaware, in which case the run in the Chesapeake and tributary streams is usually greater than in the Delaware. Reverse the order and like results are obtained. The movement of these migratory species in spring along the coast from the time of their appearance in Florida rivers is wholly a matter of condition of environment. If the waters are not suitable the migration continues until proper conditions present themselves. A perusal of the reports of the Canadian fishery officials for the years in which the shad were least abundant in our waters shows that they were the most prosperous years in these regions.

Regarding the abundance of whitefish, it is acknowledged by all the leading dealers and fishermen of the largest shipping centre on the lakes (Sandusky) that artificial propagation is the only means of maintaining a supply of that species. Again, the facts adduced from the shad hypotheses are applicable to the whitefish. There are seasons of bounteousness in the United States, while the opposite extreme applies to Canada ; yet an evenly distributed supply is more generally the rule. With this fish partial returns for 1888 indicate a marked increase in the abundance in localities where artificial propagation has been systematically carried on on a large scale. This is especially noticeable in the fisheries of the western end of Lake Erie. In the region embraced between Toledo and Vermilion, and including those towns, together with Port Clinton, Sandusky, Bass Islands and Huron, the increase in the quantity of fish in 1888 as compared with 1885 amounts to about 12,000,000 lbs., having a market value of over $300,000. The catch in 1888 in the region named was nearly as large at that of the entire lake in 1885. Now, let us see how the increase of fishing appliances would be likely to affect the individual catches of the fishermen and create the impression among them that the fishery is declining. It is hardly likely that declining fisheries would offer inducements for a rapid increase of fishing appliances. In Lake Erie there were, in 1880, 758 pound-nets ; in 1885, 928. Of gill-nets there were in 1880, 5,775 ; in 1885, 22,664. Of haul seines there were, in 1880, 18 ; in 1885, 71. Persons employed in 1880, 1,690 ; in 1885, 4,298. Steam vessels in 1880, 9 ; in 1885, 53. Other vessels and boats in 1880, 593 ; in 1885, 1,483. Total of primary products of the fisheries in 1880, $29,087,000 ; in 1885, $57,556,517. This shows the increase for five years, and the succeeding five years, when the statistics are completed, will show still greater increase. If Mr. Peirce is wrong in these matters of shad and whitefish culture where is he likely to be right ?

My purpose in taking the trouble to produce these statistics is not with an expectation of convincing Mr. Peirce of the fallacy of his position, I am well aware that that is impossible. But they will enable the readers of *Forest and Stream* to form an intelligent opinion on the subject, as they represent not only the carefully collected statistics of a great Government bureau, but also reflect the opinions of the great fish culturists

of the country, not one of whom will be found to agree with Mr. Peirce. His charge is that they are all self-interested, and in fact no better than robbers. I leave that element of the discussion to your readers. I will stop only to correct one of Mr. Peirce's misstatements. He attempts to make it appear that the publisher of the *Journal of Carp Culture and Rural Hydraulics* was in some way attacked by me. This is not so. That gentleman has my sympathy. The case still remains the same: Milton P. Peirce *vs.* the world of fish culture. If he was right Prof. Baird was wrong, and all the living lights of modern fish culture are frauds or victims of delusion. And further, if he is right the sooner we know it the better. The country is going to destruction rapidly enough now, according to the "prophets."

Mr. Peirce has some special personal grievances against me.

First, he thinks I am not a fish culturist—as he is. I hasten to say that I am not, and never pretended to be.

Second, because some months ago I said that I had recently had an application to lease certain premises for a trout hatchery, he has since persistently advertised me as the malevolent owner of a trout stream with which I wanted to victimize some poor deluded fish culturist, who had not consulted Mr. Peirce. I am not so fortunate. The fact is, I own a little tract of land on which there is a group of springs, such as are used in this neighbourhood for hatching and rearing trout. The State Hatchery has a similar group and its enterprise is a wonderful success. I know of five such plants near this city. I spoke of the application simply to show that another enterprising citizen wanted to embark in the business. The land was already leased and used for another purpose.

Third, I said early in this controversy that trout planting had greatly improved the fishing in many streams of this State, I think using the number "a hundred." Ever since Mr. Peirce has been in mortal distress because I would not give him the names of those hundred streams. I desire now to amend by saying "hundreds" I think the Platte alone has a hundred tributaries above where it leaves the mountains, and all its waters, accessible to trout, have been improved by planting, in the main stream and its larger branches, trout fry from the State hatchery. But only a few of these streams have been named as yet, and hence it is impossible to satisfy the consuming curiosity of Mr. Peirce upon that score. Besides the Platte, plantings have been made in a dozen other great river systems, or watersheds, viz.: The Arkansas, Rio Grande, Les Animas, San Juan, Gunnison, Blue River, Eagle River, the Boulders, St. Vrain, Big and Little Thompson, Cache-a-la-Poudre, North Platte, and others. I may as well amend again and change "hundreds" to "thousands." And, bear in mind, the Eastern brook trout is not a creature of accident—*vide* Mr. Peirce's theory of "years of plenty and years of scarcity"—in this region. It is an exotic, introduced here but a few years ago through the State hatchery—the best investment the State ever made.

In order that Mr. Peirce may not stumble over any more imaginary obstacles on my account I wish to repeat that I am not a fish culturist; that I have no trout brook to lease, and am not a competitor in his line of business; that I never caught a fish for the purpose of selling it; that I never sold a fish first or second hand; that I know what I see, believe many things I hear a goodly portion of that which I read. I know that trout hatching and trout planting in the waters of Colorado have been a marvelous success; I am convinced that fish culture in other lines in many parts of the world has been no less successful, and that the science is gaining ground every day to the incalculable benefit of nations and peoples. I have lived long enough to see its beginning (in this modern age) to follow its history and to glory in its magnificent triumphs. I do not believe that Mr. Peirce's calling me "callow" in all the Sportsmen's papers of the country, as he seems determined to do, will either stop or turn back the wheels of progress in this great industrial enterprise, nor do I think that all its disciples are fools, and that Mr. Peirce is the only living creature who knows all about it.—W. N. Byers.

FISH CULTURE.

ITS PROGRESS IN VARIOUS COUNTRIES OF THE WORLD, SHOWING ITS PRESENT CONDITION AND RESULTS.

(From "The Edinburgh Scotsman.")

[By George Malcolm, Invergary.]

Can any one render a reason why the family fish-pond should not be as general and useful as the family poultry-house? The advances recently made in the art of fish culture can hardly be described as less than marvellous, and do certainly favour the view upheld by modern pisciculturists that there is no more difficulty attending domestic fish-rearing than there is about domestic poultry-keeping.

Many large fish-breeding establishments, or fish farms, as they are sometimes called, have lately been planted throughout England and Scotland upon a commercial basis, some of which are already doing an extensive and, it would appear, remunerative business. From these great numbers of young fish, and artificially fecundated ova of fish, chiefly of various varieties of non-migratory trout, have been disseminated throughout the country for the furnishing of small private fish nurseries, and the stocking or repletion of larger lakes and streams, both at home and abroad. Printed catalogues and price lists are now regularly issued from these establishments at the advent of every fish-hatching season, and orders are promptly executed to all parts of the United Kingdom; or, as regards ova, to almost any part of the world, with a precision and success which are marvellous, and would, if attempted not very many years ago, have been regarded as the wildest folly. Now we have rival fish farmers keenly advertising their wares by the same attractions as are practised by the breeders of pedigree cattle or poultry, and breeders proclaiming the superior purity of pedigree or surpassing vigour of constitution of their especial stud fish over others in the business.

All this is no doubt very novel, and may be startling to persons who have not noticed the silent but wonderful strides made in the fish-breeder's art in quite recent times. To those who have been engaged in it, however, or who have followed its advances, there is really nothing surprising about it. They know that the possibilities of fish culture have by no means yet been attained. We seem, indeed, to be only at the dawn of an art not only of a most fascinating character, but with a great future of national usefulness before it. Nor is the field of fish culture limited to the family fish-pond or to private cultivation; by far the more important side of pisciculture, or piscifacture, as the French first called it, is that which bears on the question of an abundant, certain and cheap supply of food fishes for our teeming populations. In our country fish is rarely abundant and cheap, except during an accidental and profitless glut; and while nearly all other articles of human subsistence have been growing more abundant and cheaper, fish, on the whole, has been getting scarcer and dearer.

Here, then, we have presented to us a very interesting economic problem, with remarkable possibilities of beneficial development; and it is perhaps due to this, and to the stimulation of the great International Fisheries Exhibitions held at Berlin, Edinburgh, London, New Orleans, and elsewhere, that among the few subjects of domestic or commercial interest which have not been suppressed by the domination of "Irish affairs" in recent years, fish culture has been steadily making way. The Irish "Nationalist" is a being of omnivorous instincts, but it would probably baulk the ingenuity of the most versatile member of that party to discover in the innocent science of ichthyology any design against his country.

In view of the encouraging successes of other nations, more especially America, of which more hereafter, in the development of aquaculture, and of the obvious possibility of emulation of these examples, why, it may, well be again asked, is fish so dear? Fish is almost alone among the commoner commodities of life scarce and dear in this country. Only the rich and well-to-do can always have it; yet the existence of great magazines of fish food all around our coasts, our drafts on which are but small, is admitted on every hand. The wonder is increased when it is considered that these stores are of perennial growth, and capable of practically unlimited extension at comparatively small expense. Unlike agriculture, ocean fish farming, or aquaculture, is free to all, is subject to no rent, is exempt from rates or taxes, and requires neither tilling nor manuring in the sense applicable to land husbandry. Why, then, are these valuable possessions so little utilized? Why do the British public, though in chronic grumble about the price of fish, still submit to this grievance? It is the present object to offer some elucidation of this matter through a description of the present condition and prospects of the interesting and rapidly-advancing subject of pisciculture. The science of aquaculture embraces various other matters, but here it is proposed to restrict ourselves to a consideration of its bearing on our food and game fishes, and the subject naturally divided itself into two branches, viz. :—

1. Private fish culture for domestic requirements, recreative purposes, &c. ; and

2. Public fish culture, conducted at the public expense, for national and commercial purposes.

In case the benefit derived from fish culture in the past, and the advantages expected from it in the future, may still be viewed with doubt in any quarter, it may be well to formulate some of the objects aimed at, and then to describe the benefits which may reasonably be obtained from an intelligent and liberal-spirited interpretation in practice of these objects. References will be made to the history, progress and present position of the systems of fish culture in other countries as well as our own.

Although our object is chiefly to describe the advances of fish culture in the most recent time, and its capabilities of further beneficial development, readers who are interested in the subject will be willing to have some short account of its past history. Everybody knows in a general way that the art of angling, and of fish capture at large, and possibly the art of artificial fish-breeding, too, in the crudest fashion, are of the highest antiquity. But though a few leading and favourite works, such as Walton's immortal classic, which has now gone through more than one hundred editions ; Sir Humphrey Davy's charming 'Salmonia," Christopher North's "Noctes Ambrosianæ," and several of the more reputable manuals on angling, are extensively read, not many persons outside the circle of the knights of the angle, or the profession of ichthyology, are aware of the immense body of literature which exists upon these subjects. A distinguished living American pisciculturist recently stated that his library contained upwards of 2,000 volumes relating to fish and fishing, and that he regarded his collection as far from complete. The late Mr. Alfred Denison, who was well known as one of the most enthusiastic of anglers, was the fortunate possessor of an almost unique library of angling works, which numbered over 3,000 volumes. In the "Bibliotheca Piscatoria" of Westwood & Satchell (1883) 3,158 editions and reprints of 2,148 distinct works are registered. And still new works on piscatorial subjects come in great abundance from the press of nearly every nation.

Antiquarians of the piscatorial type have claimed for angling, with perhaps less reliability than enthusiasm, that it was almost contemporaneous with the advent of man. It is at least frequently mentioned in the earlier portions of Holy Writ. Fishes take precedence of terrestrial animals in the Mosaic account of the genesis of life ; and fishes were, in the nature of the case, the only form of life which suffered not from the Deluge. The readings of ancient Egyptian walls and monuments have revealed many allusions to angling and representations of hooks, spears and nets, showing that this people were anciently acquainted with some of the modes of fishing still practised, rude and simple though their implements were, as compared with the number and elaboration of the fishing requisites of our day.

"That the practice of casting into the brook," says a modern writer, "had its origin in necessity, the mother of so many inventions, can hardly be doubted ; but it is equally clear that the refined skill exhibited in this pursuit in the present day has been derived from leisure and the love of sport, aided by the more delicate gear which modern ingenuity has invented for the deception of the finny race."

Between the rude and clumsy implements depicted on Egyptian tombs or Herculaneum pillars, and the ingenious and elegant production of the fishing tackle factories of our day ; between the Vivaria of the Romans or the fish stews of the middle ages, and the splendid fish farms and stations, with their scientific equipments of our day, there is indeed a long step.

Among the ancients the earliest systematic writer on fishing was Oppian, whose Halientica in five books is entitled to rank. In our own country the earliest example of a printed book on fishing is the famous "Booke of St. Albans," by Dame Juliana Berners, the first edition of which is dated 1486, less than ten years after the first book was printed in England. Dame Berners, who is said to have been Prioress of the Benedictine Nunnery of Sopwell, is unquestionably the earliest writer in English literature on the art of angling. The "Dysporte of Fysshyng," as originally published, was associated with treatises by the same authoress on hunting, hawking, horses, and coat armour, but ere long that part of the conjoined works in which we are here interested was separately republished, under the title "Treatise of Fysshyng wyth an Angle," and since that period this very quaint book has gone through many editions. Of the earliest editions very few copies are extant. Of the third edition (1503) only one copy is known. It belonged to Mr. George Daniel, was sold in 1864 at his sale for £110, and is now in the Huth Library.

The next book of note on fishing was the first edition of Mascall's "Booke of Fishing with Hooke and Line, and all other instruments thereunto belonging," which appeared in 1590, but which is notable to us only as containing at that early date some remarks on the preservation of fish in ponds.

These two works, with the "Secrets of Angling," by John Dennys, 1613, and Markham's "Pleasures of Princes," were the only books dealing with angling which had been published in this country prior to

the appearance of Isaac Walton's "Compleat Angler." Barker's "Art of Angling" indeed appeared two years before Walton's book, and the latter acknowledges his indebtedness to the former in the preparation of his great work; but Barker's smaller work may be said to have ushered in the Waltonian period.

Of the "Compleat Angler" detailed notice is unnecessary. No book in its particular walk of literature and few in any other department, has had a tithe of its popularity. Originally published in 1653, it has already been more than one hundred times republished, and apparently the demand for it is destined to be perpetual. The popularity of Walton's book in the present day, however, certainly does not arise from its merit as a reliable guide to the art of angling, but rather from its almost perfect pastoral style, and the quaint and restful thoughts permeating its delightful dialogues and reveries. The earlier editions of the "Compleat Angler" are now very scarce. Copies of the first edition bring a very high price. The one in the Gibson Craig Collection, a fine specimen, recently sold, fetched the unprecedented sum of £195.

Some apology may be necessary for this digression into the domain of angling literature, which, however, will not be further pursued. Suffice it to say that so numerous have been the works published on fish and fishing during the last and the present centuries that at the present time it is computed that in English literature alone there are between 600 and 700 works on angling, and probably about 300 besides, which treat of the propagation of fish, and the management of British and colonial fisheries. The pursuits and pleasures of the knights of the rod and angle may be, and as a matter of fact already are, largely augmented by the aids of intelligent fish culture. It is, therefore, meet that the angler should be here considered, though it must be admitted that his part of the case is a mere fringe of it. Aquaculture embraces very much larger and more beneficent possibilities, and the day is probably not far distant when public fish culture, carried on for the public behoof at the public expense, will receive as much attention in this country as it does in many other countries, notably in America.

Whoever cares to look into this question will find no trustworthy traces of fish culture by artificial or aided means having been practised by the ancients, or even in the middle ages. Reference may, no doubt, be made to the extensive fish ponds or vivaria of the Romans, which, as is sometimes claimed for them, may also have been known in still older times to the Egyptians and Chinese; but there is no solid ground for believing that any of these nations ever practised or were in any wise acquainted with the modern methods of the fish culturist, who practises his art by manual extrusion of ova from live fish, followed by its artificial fecundation, and all the nice details of management through the embryonic stage, and the infantile and juvenile periods of fish life.

The mode of pond culture practised by the ancient Egyptians and the later Romans, just averted to, was in reality not fish cultivation, but fish capture, such as is known to the present day in the lagoons of the East. It consisted in merely driving fish by natural means into prepared water enclosures or vivaria, some of which were of vast extent, where the stock of impounded fish could be drawn upon at pleasure, and replenished from time to time by fresh drafts from the ocean. In much the same manner were managed the smaller ponds and fish stews of a later period in our own country, of which abundant remains—but little or nothing *but* remains—are to be found to the present day all over England. These remains are specially numerous where stood the homes of the monks and friars of a former age. Whosoever is curious about this will find, if he looks into the topography of the bygone great ecclesiastical houses, that they were set down with a very discriminating regard to the bounties as well as the beauties of their situation. While their founders had one eye open to the fairness and fertility of the surrounding domain, they generally turned the other to the proximity of some abundant fish, especially salmon. Alas! that so many of these rivers are now entirely bereft of salmon—indeed, of edible fish of any kind.

The practice of pond culture or the rearing of fish, chiefly carp and gold fish, in ponds for domestic use, has been long in use in Germany, and is still in considerable vogue. All the great land owners—Prince Bismarck, for example—maintain a supply of carp, not only for their own private establishments, but in some cases for commercial gain. Nor is this confined to the larger houses; domesticated carp are very common among the Germans, who have set an example in that respect which has been very successfully copied recently by the Americans. From the eggs of highly-bred carp, originally imported from Germany, the United States Fish Commission have propagated large numbers of that fish, and distributed them to all corners all over the States. In our own country the systematic keeping of fish in confinement for domestic or utilitarian purposes has been in abeyance for centuries. Some fish ponds there always have been, of course; but these have been maintained chiefly for sport, or for the embellishment of the private demesnes to which they are attached. We are again, however, it is hoped—thanks to the impetus derived from recent discoveries in pisciculture—on the eve of a revival of pond culture of fish for domestic requirements. Should there be such a revival, it may be presumed that, being now based on an intelligent alliance of science with practice, it may have the promise of success and stability. Many other varieties of fresh water fish than carp, though now, as regards this country, in a purely feral state, are amenable to a high degree of domestication. Intelligent artificial fish culture, it would therefore seem, may be the means of bringing the family fish pond into as real and common use as the family poultry or bee-house.

The merit of the discovery of the art of artificial fertilisation of the ova of fish belongs to a Westphalian German, named Stephan Ludwich Jacobi, who practised the art as early as 1778. Some critics have sought to belittle Jacobi's discovery, by the assertion that it was merely the revival of a lost art, formerly known to the Italians, but there would appear to be no good grounds for supposing that artificial fish culture was known to any people prior to its discovery by Jacobi in the middle of the last century. To him it came undoubtedly as an original invention, and as such he is entitled to the credit of it.

The importance and widely-reaching possibilities of this discovery were at once apprehended, though it was not until long afterwards that it was brought into extensive use even by the countrymen of the discoverer. By Jacobi's own family it was practised for many years, and they would appear to have had correspondents in England and France, as well as in America. The relations of Jacobi the elder with England seems to have secured him a pension in 1771 from George II. Though the art thus discovered in Germany about the middle of the last century has been slowly developed, it can be traced in Italy in 1791, in France in 1820, in Great Britain in 1837, in Norway in 1850, in the United States in 1853 and in Canada in 1863. It is, however, only within the last twenty years that under alarm as to the economic condition of many of the world's greatest fisheries it has been taken up by any nation (with the single exception of France, perhaps) upon a great scale, and under official auspices, as the only feasable means of reparation of improvident and wasteful use of those fisheries, and of maintaining in the future a full supply for every possible

public requirement. That public fish culture is equal to this will be seen later; but, in the first place, some account of the processes of artificial fish propagation, as it is now practised, and of its application to private fish culture, will here be given.

The last two decades have seen the establishment, on a commercial basis, of a considerable number of private artificial fisheries in our own country, and by this means, so far as regards inland private fisheries, all requirements are being supplied. From these fish-farms, too, somewhat extensive contributions of ova have been made to our Australian and New Zealand colonies, with a view of solving the problem (still unsolved, we fear) of acclimatization of salmonidæ in these waters. We have also had interchanges of ova with our American cousins. All this has been accomplished through private enterprise exclusively. It has been limited to non-migratory fresh water fishes and several varieties of salmonidæ—what are generally known as game fishes. But these are no more than the outworks of this great matter. So far as Great Britain is concerned, the culture, by artificial help, of ocean fisheries has had no existence. In that field we are, at the present time, quite outpaced by other nationalities. All the successes and all the honours have fallen to foreign pisciculturists.

Like many great operations, the fertilisation of the ova or eggs of fish is an exceedingly simple though delicate process. Nothing more is required than care in the selection of healthy, mature fish in a ripe condition—that is to say, ready to spawn in the natural manner—and some caution and gentleness in performing the operation. The operation itself consists in the passage, with more or less pressure, of the operator's hand down the abdomen of the female fish, thus extruding the ripe ova into a shallow receptacle, and afterwards suffusing the ova with the milt of the male fish obtained in the same manner. So far, if this process is carefully executed, there is almost no risk of miscarriage.

In early practice a good deal of water was thought to be an assential admixture in the fertilising process, but now what is called the dry method—a discovery of Wrasskie, a Russian pisciculturist—is in all but universal practice. Under the dry method, where little water is used, the percentage of fertilisation is much greater than under the former plan. If skillfully manipulated unfertilised eggs should not exceed 5 per cent. The rationale of this discovery—which, though made in 1854, was not known out of Russia for a good many years afterwards—is that the spermatozoa or vital principle of the milt is much more powerful and active, and that for a longer period, when undiluted with water than when, as formerly was done, both it and the ova were submerged under several inches of water in the fecundating vessels.

It has been ascertained that ripe milt, if, when obtained, is at once excluded from air and water, may be kept alive for several days, an obvious advantage of this being that it is thereby unnecessary to hurry the process of impregnation. Some of the milt may even be saved for use on another day. It follows from this most interesting fact that, without removing the parent fishes from their homes, a cross may be effected between fish frequenting waters far apart. It may even be possible some day to effect changes of this vitalising material with our American brethern for the extension and healthy cross-breeding of some of our and their more valuable fish species. On this subject, Mr. Livingstone Stone in his "Domesticated Trout," makes these amusing remarks:—

"In consequence of the discovery that all mature eggs are impregnated by coming in contact with ripe milt—the fish, both male and female, being taken at random—we are compelled to admit, however unwillingly, that the origin of fish life, in artificial impregnation at least, is wholly a mechanical affair. The mere mechanical mixing of the ripe milt of any male and the ripe eggs of any female creates the germ of life, and perpetuates the race; all previous considerations of pairing off among the fish, or of this or that one selecting its mate, counting for nothing. The fish of either sex has no choice and no knowledge as to the individual through whom its progeny shall be generated. The female fish may become a mother without ever having seen her mate, and the male may become the father of innumerable offspring without ever having seen the mother. Whatever margin of uncertainty the unimpregnated eggs of the old system might have afforded for the conjecture that empty eggs were the consequence of mismating on the part of the fish, or rather of the manipulator, there is none left now. Mechanical contact of eggs and milt, indiscriminately taken, produces all the results that mutual affection and choice of mates could accomplish. There is now no possible place left for sentiment in the connubial relations of trout that are artificially spawned.

Having secured a supply of properly impregnated ova, the next step in the process of fish raising is to place it in the hatching boxes. Since the days of Jacobi, Shaw at Drumlanrig, and the earlier experiments at Stormontfield, on the great Scottish salmon river Tay, the advances in the knowledge of fish culture have included many improvements in the apparatus employed in hatching. But one must repair to Germany or America to see fish hatching on the largest scale. Our own hatcheries are as yet limited to the propagation of fresh water fish and anadromous salmonidæ, but they include several establishments which in their special line of work have almost no rivals. The splendid fish farm at Howietoun, near Stirling, is a notable example, upon which its owner, Sir James Maitland, Bart., has bestowed the greatest pains, and no little expense, to render it what it is—the most scientific and complete, though perhaps not the most extensive, fish farm in the world. Beginning in an experimental way, and on a small scale, some years ago, Sir James has made many investigations into fish cultural science, and has successfully solved some knotty problems relating to hybridisation and other subjects. He has gradually extended his operations, until he is now in a position to supply, and does supply, his wares to all parts of the world to which the fish culturist's art has yet extended. Scarcely less complete are Mr. Armistead's well known fishery on the Solway, and the Stormontfield and Dupplin hatcheries, in Scotland; and in England, those of Mr. Andrews at Guildford, Mr. Capel at Crays Foot, the National Fish Culture Association at Delafore Park, and the Midland Fish Culture Establishment at Malvern Wells. A peculiarity of the last mentioned establishment—which was conducted till his death with great spirit and success by Mr. William Burgess—is, that, for a small charge, parcels of ova are received from any quarter, and there hatched out, the owners receiving their parcels back in the condition of fry.

The first and most indispensable requisite of successful hatching is an unfailing supply of pure water. For hatching purpose spring water is considered best, because of its purity, equable temperature and small liability to freeze. Speaking here of hatcheries on a small scale for limited objects, whether for the stocking of private lakes and streams or family fish ponds, the hatchery should be located in a place accessible to a ready and steady water supply. The hatchery itself may be very simple and inexpensive, and in extent what you require it to be—from the single box, hatching only a few hundreds, to a multiplication of boxes, capable of turning out hundreds of thousands.

Various forms of hatching boxes have been devised and brought into use, some constructed of wood, some of slate, iron, fireclay, &c. In large permanent establishments it is, no doubt, desirable to have the incubating and other apparatus as durable as possible ; but in small hatcheries, for limited service, there is nothing better or more economical than wood, well charred on the interior sides to prevent fungus, the most deadly foe of the fish culturist. The boxes are of rectangular shape—elongated to suit the situation. When gravel is used as a bed for the eggs it must be previously thoroughly well scalded with hot water. In practice, however, the use of gravel is now much discarded in favour of glass grilles, which were first introduced by M. Coste, the eminent French pisciculturist. These grilles or gratings are composed of thin glass tubes, extending across the hatching box, and placed side by side, with sufficient closeness as to support the eggs in rows in the hollows between the tubes. The great advantage of this system is its cleanliness, and its facility for segregation of the eggs, so that over and under and all about every individual one there flows an equal, properly aerated and unceasing current of water, so essential to successful incubation.

Various other methods of hatching have been tried, some of them very ingenious, but none have in practice been found better than the system just described. The principle of some has been an upward, and of some a downward, current. Mr. Ainsworth, an ingenious American, is the author of a sort of hatching engine in which breeding fish may freely enter, but cannot leave till they have fulfilled their functions. This invention is somewhat on the lines of the mechanical poultry layer, with which our American friends amused us somewhile ago. All such inventions and mechanical aids, while very ingenious and probably not impossible contrivances, have been doomed to failure, however, before the simplicity, naturalness and economy of the prevailing method.

We have not space to enter at length into all the subsequent processes of fish rearing—the incubation of the embryo, lasting in the case of trout about fifty days, and about ninety days in the case of salmon ; the alevin stage, being the period of about four weeks after hatching, during which the young fish subsists on the sac or yolk of the egg whence it issued, and to which it remains attached ; the fry period ; the yearling period ; the two-year-old period ; and, finally, the adult age—deeply interesting as the life history of fish is. Nor would these details probably be of much interest to the non-professional reader, who is not yet to some extent educated in the art and bitten by its fascinations. To such as wish to study the scientific principles of artificial fish culture, however, there are many excellent works available, by British, American, French, German, and other authors.

The amateur or domestic fish culturist requires for his guidance only a few simple rules, reduced to careful practice, and an ordinary supply of patience. His apparatus may be of very simple description. From one of the larger fish farms ova have, it is stated, been supplied to purchasers of every class, from Royalty to the schoolboy, and in all quantities, from many hundreds of thousands to the contents of a single box, thus illustrating the simplicity of this art as well as its growing interest among all classes. It is limited neither to the professional culturist, who pursues his vocation on a very large scale and on commercial lines, nor to the wealthy landowner, who desires in this way to stock or renovate his waters and sets up a private hatchery for this purpose. It may be taken up by the budding naturalist schoolboy, who, it may be, has secretively robbed the nest of a member of the finny tribe—as he has often done of the feathered tribe—and has transferred his spoil to a box or tub with a tiny rill flowing through it, and watches with great interest and delight the development of his delicate but clever little friends ; or it may become an appanage of every household where there is a stream of pure water, and turned to profit with as much ease and certainty as the rearing of poulty and bees for family use ; and certain it is that the fish fancier will derive no less interest and amusement from his art than the poultry or bee-fancier does.

It has already been said the apparatus required for domestic fish rearing may be very simple and inexpensive. The present writer has been concerned for some years with the rearing of Salmo Levenensis (the celebrated trout of Loch Leven) and Salmo Fontinalis (American brook trout) for the purpose of stocking certain virgin waters, and improving existing trout in certain others. Ova for this purpose have been procured from the famous Howietoun fishery. Although the situation involves a journey of about forty-eight hours, with much jolting over railway and road, the ova being carefully packed according to the latest knowledge, have invariably arrived in perfect condition, with hardly a dead specimen in the lot of some 30,000 or thereabouts. Here the subsequent hatching and alevin life have been effected in the domestic laundry (which is, of course, not in ordinary use at that time), in three or four hatching boxes surmounting each other, and supplied by the water of the laundry pipe, which, flowing into the nearest end of the uppermost box, overflows at the other end into the second uppermost box, and so on till it issues at the farther end of the lowermost box.

Reference has been made to the capability of domesticating and taming trout and other fish now in a feral condition. At Howietoun fishery many of the trout are said to be able to recognise their attendants and to answer to call or signal. Into the vexed question how many senses fishes possess—whether they can hear and smell as well as feel, taste and see—we shall not here enter ; but there is at least no room to doubt that by touch, taste and sight—of which latter sense they have a most acute endowment—fish can be trained to a high degree of domestication and familiarity with man. In the cases in the writer's experience referred to in the preceding paragraph, the young fish became wonderfully tame. As a precaution against the cannibalistic propensities of the larger native trout in the lake for which they were being reared, they were, after leaving the hatching boxes, placed in intermediate ponds or nurseries for two year before being turned at large. While in these ponds they not only followed their attendant all around, but came without fear and took food from his hand.

As to the conveyance of ova and young fish from one place to another, so well is this now understood that ova can be sent in specially constructed boxes to any part of this country, with absolute safety under ordinary and obvious precautions ; while with the aid of the ice and refrigerators, it can also be sent with comparatively little risk to any part of the world. For example, the Howietoun fishery successfully exported last year, to the order of the New Zealand Government, over half a million of salmon ova obtained from the Tay, Forth and Tweed rivers, and in 1887 sent a similar quantity to the same quarter, which also arrived in good condition. Then, as regard the transportation of live fish, this, by means of scientifically constructed tanks, aided by the use of ice, can be done with a minimum of risk to all parts of this country with fish not exceeding two years of age. So far, the difficulties of transporting older fish to long distances in this country, or of sending fish of any age abroad in large numbers, have been found insuperable. A consignment of live tench and perch in tanks was made to Japan in February, 1889, by the late Mr. Burgess,

of the Midland Counties Fish Culture Establishment, but we have not heard its fate. In Japan the subject of fish culture appears to be receiving considerable attention, both from the Government and private persons. Its waters are said to be peculiarly well adapted for aquaculture, and the young fish are fed on wheat, flour and the chrysalides of silk worms.

Additional interest in the means of transportation of fish has recently been aroused by an "invention" of an American gentleman, who thinks this can be done successfully by hermetically sealing them in vessels partly filled with water. As it is stated that tests of the invention have been made by one of the professors on the United States Fish Commission the matter would appear to have received some serious consideration, but it does not wear a likely look. It would, perhaps, be too much to say that we shall never attain to the means of transferring fish of any age or size from localities widely apart—probably by some adaptation of the compression of air—and no invention could be more valuable; but it must, we fear, be admitted that as yet we have had no approach to this.

With regard to the all-important matter of feeding of fish kept in confinement for domestic purposes, or in nurseries, till they are fit to defend themselves from all attacks, whether of their natural enemies or foes of their own species, it may be best to refer the reader to the various manuals on the subject. But here it may be briefly stated that after the young fish have passed the alevin stage, till which period they require no subsistence but that of the sac or ova from which they have sprung, they are in the nest or fry stage generally fed several times a day with finely divided yolk of egg; afterwards with liver and milk curd; and still later with vegetable, or meat or shellfish diet, such as vermicelli, finely triturated raw horseflesh or clams, or with any other available food of similar character. At Howietoun, where several millions of ova are annually hatched, and a proportionate number of fish of all ages have to be fed, the flesh of a considerable number of horses, and a very large quantity of shell fish are annually consumed—the latter being given to the large stud fish. Similar provision for feeding is made at every fish farm. The writer, having access neither to horse-flesh nor shell-fish, has found venison a very good substitute when finely divided. Besides this, the fish depend largely on natural supplies of food both at the bottom and surface of the water, and much may be done to augment and improve these natural supplies by the selection of sites for ponds supplied by water rich in natural food for fish, and by a judicious stocking of the ponds with aquatic plants suitable for fish rearing.

The preceding remarks have related chiefly to "Private Fish Culture" and to its bearings on domestic economy, and the stocking of private fisheries for purposes of sport. This is what may be called the recreative and minor side of the case. The political economist would regard it as the mere elements or outer rim of a great question laden with potential benefits to the great consuming public of the most important kind. Let us now try to set forth what is understood by "Public Fish Culture," and what its present position is both at home and abroad.

What is here signified by "Public Fish Culture" is the cultivation of food fishes carried on for the public needs at the public expense. Its legitimate sphere is the adequate stocking of public waters with valuable fish, and the maintenance of the same—in which fisheries the public interest is universal, and no individual or private rights exist. The scope of acquaculture is, it should be said, not restricted to food fishes, but, in the words of one of its ablest exponents, "is now understood to signify the exploitation of all products of sea, lake and river, including the capture of whales, turtles, pearls, corals and sponges." The present intention is, however, to limit the application of these remarks to such products of the ocean, lakes, and rivers as are really valuable for human food. Doubtless, the whale is a most precious animal, whose preservation is most desirable. Whale oil is a very valuable commodity, and whalebone is nearly invaluable, selling, as it does at the present time, at over £2,000 per ton. Every one knows how precious to the epicure is the turtle; how beautiful and valuable are pearls and corals; and how useful are sponges. But these, not being regarded as necessary wants of the public, may here be left out of our account. We must, however, here allude for a moment to one of the latest feats of aquaculture in connection with sponges, which are now being successfully raised by means of cuttings, just as land plants are. A new industry, to which the Austro-Hungarian Government has extended its protection, has been created on the coast of Dalmatia by this method, first discovered by Professor Oscar Schmidt, of the University of Gratz, of multiplying sponges by breaking off and transplanting pieces of living sponge. Attempts have been made to transplant live adult sponges from the bottom of one sea to that of another, but, so far, the success of this experiment has not been encouraging.

Notwithstanding the interest in commercial fisheries which was aroused by the International Fisheries Exhibitions held in Berlin in 1880, in Edinburgh in 1882, and in London in 1883, it is still improbable that more than a small minority of the British public at least ever associated the ocean with the land as a field fitted and prepared for a great cultivation of food. And yet it really is so. There are in the great sea expanses of unexplored and virgin water capable of yielding prodigious stores of fish food, just as there still are on the land immense tracts of unpopulated country, now mere wastes, but capable by cultivation of abounding returns of fruits of the earth. When the creative fiat went forth man was awarded dominion over the sea and all therein, just as much as over the land; but just as he must win the gains of the soil by the sweat of his brow, so must he reclaim the harvest of the sea by unceasing and intelligent methods of labour.

Further, all or nearly all the conditions and methods of land cultivation have their analogues in the economic cultivation of the waters. The sounds and shoals and banks in the ocean are the great fish farms; the ocean-going fishing craft are the necessary farm offices; and the various appliances of fish capture are the complements of our scientific implements of land husbandry. Many foreign substances are in the present day applied to the soil for maintaining or renovating its fertility, and we do, or should do, something like this for our fish farms by the cultivation of *algæ* and other forms of aquatic vegetation upon which breed and live those minute organisms which so largely contribute to the support of fish life. When with regard to the land reparative measures are neglected, its fruitful elements soon become exhausted. We can easily do the same to our ocean food possessions. We have too often, alas, done so already by a long course of improvident and wasteful reaping without adequate nursing or building up By judicious interbreeding and preservation of the fittest we have enormously improved our agricultural stock; and by a like process, though not yet to an equal extent, we have done the same with some kinds of aquacultural stock, and have demonstrated that similar treatment may be extended to all. Scientific and provident farming ashore is

careful never to miscrop or overcrop, and is alive to the value of the practice of fallowing. Scientific and provident farming afloat will in time equally recognize the imperative need of these rules of good husbandry.

In several important respects the aquaculturist has advantages over the agriculturist. He has a free hand to sow and to reap where he wills. He is under no lord of the soil, and knows nothing of "Coercion" Acts or legislative vexations of any kind. He is hampered by no private rights. His husbandry exacts less personal attention, and his crops do not suffer from atmospheric influences, and, when obtained, they are quickly realised. And, above all, he sits, or rather sails, rent and taxation free.

But what use have we made of these bountiful oceanic provisions? Have we taken advantage of them as we have in these later times of the fruitful qualities of the land? Clearly not. Though we go far afield for bread and beef adequate for our teeming and ever-increasing millions, we have hitherto strangely overlooked or neglected the possibilities of relieving the demands of subsistence by a better cultivation of our marine food farms. We have been strangely passive under the ever-growing difficulty and cost of procuring sufficient supplies of fish, while it has been known that by the adoption of rational and adequate methods of fish culture and of fish capture we may indefinitely increase and consequently cheapen our national fish supply.

It may be asked, What are these rational and adequate methods? The reply is, that artificially aided fish culture is capable of increasing fish supply to a practically unlimited extent. There are four known methods of fish culture, viz. :—1. By pond culture ; 2. By transplantation of sexually mature fish ; 3. By transplantation of naturally deposited spawn ; and 4. By artificial extraction and incubation of spawn. It has already been shown that by the last-mentioned means complete control of the reproductive functions of fresh water and anadromous fish, such as the salmon, has been acquired. In the present day these kinds of fish can and are being multiplied to any required extent on many inland fish farms with all the certainty of a science. The remainder of our space will be devoted to a short review of the other methods of pisciculture above stated.

Necessarily, the cultivation and increase by artificial means of migratory and pelagic varieties of fish is attended with greater difficulty than is the case with non-migratory fish. Our knowledge of the life-history of many ocean-going fishes, and even of the salmon, when it repairs to the sea, is still far from complete. Many of these wandering fish do fortunately, however, once every year approach the land or enter into sounds and shallows, for the purpose of breeding, and opportunity is thereby given to aid or protect the generation of these species. Some other kinds, which literally cast their seed upon the waters, are much less amenable to piscicultural control, but with regard to these nature has herself provided a safeguard against extermination. Their fecundity is so inconceivable that were it not for wholosale destruction of their spawn from natural causes, as well as the depredations of species upon species, not only all the arts of man would fail to make any practical inroad on their numbers, but the sea itself would cease to give room for them. It has been calculated that of some kinds of fish not more than one in 500,000 reaches adult life, and that for every full-grown oyster upwards of 1,000,000 die.

Thus it is that though the fertility of many kinds of oceanic fish surpasses comprehension, they are, nevertheless, so reduced in numbers by the operation of various natural causes—the predatory instincts of other species—and the wasteful arts of capture practised by man, that great difficulty is often experienced in obtaining an adequate fish supply for human needs. Some species would seem, indeed, to have been really exterminated, and others have narrowly escaped the same fate. The salmon itself, though now better protected, not so long ago seemed in danger of extermination, and has actually been completely destroyed in many places where it formerly abounded. Such, also, has been the fate of the oyster, lobster, and other mollusca.

In considering the best remedial measures for decayed fisheries, and the economic extension of the whole fishing industries, a controversy has arisen among experts as to the necessity or value of protective legislation. In Great Britain the positive side of this question is led by Dr. Francis Day, who is a strenuous advocate of close times and legal control generally ; while the negative view is as firmly held by Professor Huxley, who sees no good in protective Acts of Parliament, or, as he puts it, "keeping the wolves off during the lambing season will afford not much protection if you withdraw shepherd and dogs during the rest of the year." In the United States of America, which at the present time leads the van of fishery matters, the Chief Commissioner of Fisheries, backed by public opinion, is averse to restrictive laws, and no such enactments there exist. We take this to refer to sea fisheries, however, and must assume that none of these authorities are wholly opposed to protection of non-migratory fish during the fish-breeding period, the local habits of which would expose them to the danger of extinction. Fishes of anadromous and pelagic habits, however, could not be caught at all if not when they enter our rivers or approach our coasts to spawn. Nor can it matter at what season a fish is killed if it is killed, at all before it spawns. Here, however, pisciculture steps in and says all such considerations are superceded by its intelligent practice.

Our own nation cannot yet be quoted for the best illustrations of the power and value of public fish culture. On the contrary, we are, with respect to national recognition of this great question, almost at the foot of the scale, though by means of private enterprise, as has been shown, considerable progress has been made in one branch of the subject. We have been left behind by more than one nationality, but as the United States of America have outdistanced all others, a short account of what has there been done may be the best means of describing what may and should be done for national encouragement of pisciculture.

In America, as elsewhere, long neglect and improvident methods of fishing had seriously diminished the yield and value of many of the public fisheries, and the outlook was sufficiently gloomy when, in 1871, Congress appointed a Commission of Fish and Fisheries, whose duties were thus defined : "To prosecute investigations with the view of ascertaining whether any and what diminution in the number of food fishes of the coast and the lakes of the United States has taken place ; and, if so, to what causes the same is due ; and, also, whether any and what protection, prohibitory or precautionary, measures should be adopted in the premises." The late Professor Spencer Baird, secretary of the Smithsonian Institution, a biologist and scientist of the first rank, and the author of many learned works, was appointed Chief Commissioner. To Professor Spencer Baird, it may here be mentioned, the grand prize of the International Fisheries Exhibition at Berlin, in 1880, was awarded, as "the first fish culturist in the world."

Previous to this, it should be stated, several American States had made appropriations of money for the purpose of investigation and experiment on the lines of the Congressional Commission, and most of the States have followed, and vied with each other in liberal co-operation in the general work of the Commission.

The scope of the Commission, it will be seen, included a systematic investigation of the waters of the United States; the life history of their food fishes, and of the foes and friends of the same; the influence of currents, temperatures, and other physical phenomena on the welfare of fish. It included also a review of various methods and seasons of fishing then in use, and how far these had tended to the depletion of certain fisheries. That there had been a very serious depletion of some American fisheries, and that measures for their repletion were urgently required, was speedily ascertained by the Commission. It accordingly at once gave consideration to measures for improving these fisheries—the multiplication everywhere of existing valuable food fishes and the introduction and acclimatisation of others.

In furtherance of these objects, and liberally supported by his Government, the Chief Commissioner and his staff lost no time. Their labours have been more largely conducted along the North Atlantic coast than elsewhere, for there the most important sea fisheries are located; but stations have also been planted on the Pacific coast, and the great inland lakes and rivers. At the present time about twenty of these stations, each with its separate skilled staff, laboratory, hatching apparatus, &c., are in full operation in the United States; and some idea of the magnitude and usefulness of their work may be gathered from such facts as that during the first eleven years of the operations of the United States Fisheries Commission no fewer than 341,096,071 fish were distributed from these stations among public waters, and that in the year 1885 alone, among many other distributions, 92,000,000 eggs of the whitefish were hatched and distributed. Operations on the same gigantic scale have been carried on continuously by the Commission, and have extended to over thirty species of fish and mollusca, including brook, lake and squassa trout; Atlantic, California, and land-locked salmon; striped bass and sea bass; whitefish, shad, sturgeon, smelt, herring, cod, haddock, alewife, mackerel, pike, perch, grayling, carp, tench, goldfish, &c.; oyster, lobster, clam, &c.

As illustrating the thoroughness of the work of the American Fish Commission, a few words may be quoted from the pen of Professor Brown Goode, one of the members of the staff, and himself a leading pisciculturist:—

"For twelve years the Commissioner, with a party of specialists, has devoted the summer season to work on the shore at various stations along the coast from North Carolina to Nova Scotia. A suitable place having been selected, a temporary laboratory is fitted up, with the necessary appliances for collection and study. In this are placed from ten to twenty tables, each occupied by an investigator, either an officer of the Commission or a volunteer. The regular routine of operations at a summer station includes all the forms of activity known to naturalists, collecting along the shore, seining upon the beaches, setting traps for animals not otherwise to be obtained, and scraping with dredges and trawl the bottom of the sea, &c."

The American Commission has also prepared careful life histories of the principal fishes; and embryology in connection with fish culture has been a special object of study. The influence of the temperature of the water and of storms upon the local movements of fish have been investigated and recorded. Fish-ways to facilitate the running of fish over natural obstacles have been constructed. Many original and valuable improvements in the apparatus of fish capture and fish breeding have been brought into use, such as gill-nets floated with covered glass balls, for the taking of cod, thus obviating the use of hooks and the necessity of bait.

The construction of incubating apparatus, with special adaptation to the physical properties of the various kinds of fish spawn, has had special attention. The eggs of fish are classified by ichthyologists into four varieties:—(1) Eggs non-adhesive, and too heavy to float, such as those of salmon and trout; (2) eggs also heavy, but adhesive, such as those of the herring, &c.; (3) semi-buoyant eggs, like those of the shad and whitefish; and (4) free floating eggs, like those of the cod and mackerel. The first of these kinds are hatched in boxes and on trays or glass grilles, as has already been described; the second on twigs or glass frames, to which they adhere. The other classes require somewhat different treatment, owing to the necessity for carrying on the process of incubation while the eggs are in suspension; but this has been met by ingenious contrivances for the impounding and safety of free floating ova, while still keeping up that degree of agitation or circulation of the water which is necessary for successful hatching. For the hatching of the eggs of the lobster an ingenious automatic jar, the invention of Colonel Macdonald, who is better known in connection with his improved fish-ladders, is now in successful use.

Aquatic plants, upon which flourish water insects and mollusca, which in turn are fed upon by the fish, have been freely introduced into American fish nurseries. Three or four steamers and several sailing craft, specially fitted up for fish cultural work, have been placed at the disposal of the Commission. For the more rapid and safe conveyance of fish and ova from the various distributing stations, specially constructed railway cars, fitted with refrigerators, &c., are run at reduced freights by the various railway companies. The best information has been collected, and instruction given, as to the curing and packing of fish for market.

Space forbids the giving of further details of the active work of the United States Fish Commission. The results have been eminently successful and highly gratifying to the Government, which originated and has so liberally supported the work. The field of operations has by no means yet been covered, but the benefits already derived have been most marked. Rivers, such as the Sacramento, which, owing to immoderate and wasteful fishing—the direct result, probably, of the invention of fish canning—had been greatly depleted, have been marvellous recouped, so that even the canneries cannot now use up the available supply. The supply of salmon from the Sacramento has risen from 5,000,000 to 15,000,000 lbs. annually. The yield of fish from the Potomac has been trebled, and the same account is given of the Connecticut and other rivers, and of the lakes of the interior. From the Pacific coast alone no less than 81,302,400 lbs. of salmon were canned last year, the prime value of which amounted to £1,812,800. In short, it has been put beyond all doubt that by such endeavours as have been so well carried out by the United States Commission on Fish and Fisheries it is easy to sustain and to extend to almost any degree the supply of this leading article of food. Full information respecting the work of the American Commission, and the general progress of fish culture in that country, has been extensively diffused by means of the bulky annual report of the Commission, and many monographs and special reports by members of the staff and other experts. From time to time the work of the American fish culturists has received the highest commendation from authorities on the subject all over the world.

The United States of America have surpassed all competitors in the liberality, intelligence and success of their fish cultural operations ; but other nations have given the matter considerable attention, and many are now awakening to its great importance. Before recrossing the Atlantic a glance may be made at the work done, and still being carried on by Canada. Here there are twelve large hatcheries or stations, which reared and distributed throughout Canadian waters, from the commencement of their operations, in 1869, to 1884, nearly 400,000,000 of fry, and this work has since been continued at the rate of over 100,000,000 eggs hatched every season. The results of this have been a very marked improvement of the Dominion fisheries, especially in fresh waters. A notable example is the Fraser River, which, having been depleted of salmon to an alarming extent through reckless over-fishing, stimulated by the demands of the canneries, has been again rapidly restocked through cultural operations. She has likewise bestowed much attention on the arrest of destructive lobster and oyster fishing, and to the restoration and future protection of these valuable fisheries. At Dildo, Trinity Bay, Newfoundland, 5,000,000 young lobsters, which had been reared on cod livers, were recently turned into a newly-erected fish farm. This farm has been prepared for the hatching and rearing of young cod, 200,000,000 millions of which it is capable of holding at a time ; but having been completed too late last season for this purpose, is temporarily used to rear these five millions of young lobsters.

Among European nations greater attention has been given to fishery questions by Germany, France, Norway and Holland, than by others. There is a German Fishery Union, devoting itself chiefly to fish propagation, and a German Fish Commission, supported by Government, whose functions are chiefly investigatory of sea fisheries. In Germany the domestication of carp, goldfish, &c., has been practised for many centuries, and is turned to commercial profit as well as household use. Many of the greater landowners—among whom Prince Bismarck may be instanced—derive a considerable profit from this source. Very successful revivals of carp culture in ponds and small waters have been made in the United States, and elsewhere, from introductions of German stock. The chief seat of German pisciculture is at Huningen, in Alsace, now by the fortunes of war a German possession, but which was originally established by the French Government in 1850 under Professor Coste. Here public fish culture was first systematically practised, and here are raised supplies for replenishment of the rivers of the Fatherland.

The sea fisheries of France are of great extent. At Boulogne alone it is calculated that the annual yield of fish is equal to the flesh of 40,000 bullocks ; but for political and perhaps other reasons French fish culture has for some time been in rather a languishing condition. Formerly France took the lead ; but she has been deprived of her leading establishment at Huningen, and though she has founded another at Epinal in the Vosges Mountains which promises well, further time is needed for its development. In France great attention is now being given by means of the allotment system to ostreiculture, and the results so far are very encouraging. French fishermen are among the most intelligent of their class. A slight but significant instance of this is the attachment of small electric lamps to their gill-nets for the attraction of fish. Here is an idea which is probably destined to considerable extension, since it is well known that fish are readily attracted and deluded by artificial lights.

In Norway, Sweden, Holland, Denmark, Austria, Italy, Switzerland, Poland and Russia attention has for long been more or less bestowed on pisciculture, and the subject is at the present time more or less active, mainly in proportion to the extent and situation of available fishing grounds. In the last-named country M. Wrassky, the discoverer of the dry method of fecundation of fish eggs, superintends an important fish cultural establishment, under Government auspices, at Nikolsk in Novgorod, which is capable of hatching about 2,000,000 ova every season.

In China and Japan primitive methods of fish culture have been practised for time out of memory ; but now, in the latter country at least, the annual value of whose fishings is about £7,000,000, or nearly three times that of Scotland, all the modern methods of fish culture have been imported, and are being worked on a commercial scale with the encouragement and aid of the Government.

Finally, we come to the condition of the fisheries and of the fish culture in our own country. The scarcity and dearness of fish are with us matter of frequent complaint, and here, if anywhere, it might be thought every effort would be made, through public as well as private channels, to maintain and extend the productiveness of our public fisheries. It has been shown by convincing proofs that fish of every useful species can and are being by artificial help propagated and multiplied elsewhere for public needs. It is equally true that though now and then there may be a brief glut of fish in this or that local market, due to an accidental, or it may be, a culpable cause, the masses in this country are still most inadequately provided with this form of food. Here, surely, is a clear and imperative national duty, yet our Government has hitherto been almost wholly indifferent to it. By prohibitory legislation we have laboured to keep the herring on our coasts and the salmon in our rivers, and have only produced a state of matters in which offshore and inshore fishermen are in deadly opposition to each other, with diminishing takes and dwindling returns as the result. But of scientific investigation into the decay or stagnation of our marine fisheries, or of enlightened measures for their recuperation and extention, we have as yet done nothing of practical value. We do not possess a single public hatchery or nursery for the propagation and distribution of fish. We have, within the past few years, established two or three small marine laboratories, poorly equipped, and scarcely seconded at all by skilled observations at sea, as they ought to be. Some feeble attempts at scientific investigation of certain fishery problems have been recently made by the Scotch Fishery Board, but little practical good has come, or could come, from an enterprise so very poorly furnished.

It is a saddening reflection that we can afford every year, with never a doubt or grudge, many millions of money for purposes of war, and so very little to render the first necessities of life more abundant and accessible. We have at last a Department of Agriculture, languishing and ineffective though it may be, but in the hardly less important domain of aquaculture we may be said to be nationally doing nothing. Could we devote the price of a single warship to the development of our fisheries upon lines lying reasonably within the sphere of government, how great would be the stimulus to these national interests and how immense the benefit to the people. Surely the time may not be far distant when there shall be a revival of legislation directed to full satisfaction of the elementary wants of our race, and when, as one of the foremost results of this, the question of a full and cheap supply of wholesome fish for food will receive wise and adequate treatment from the national Executive.

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